XT-M

JVC-03265

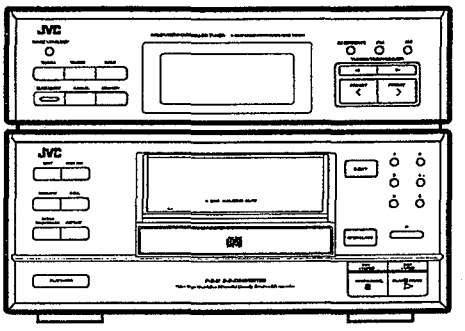
JVC

SERVICE MANUAL

COMPACT COMPONENT SYSTEM

CA-MX77MTN

(UNIT NO. XT-MX77MTN)



COMPACT disc DIGITAL AUDIO

* *For instruction manual, please refer to the CA-MX77MTN (S.M.NO.20334).*
* *DX-MX77MTN is needed (for power supply etc.) when servicing.*

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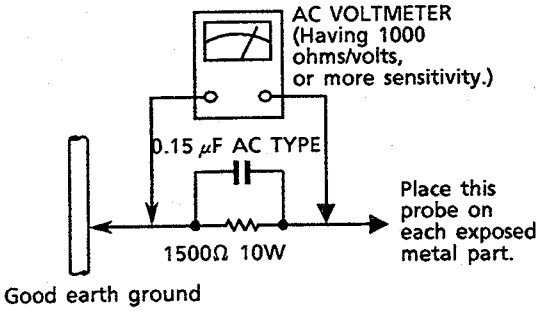
Safety Precautions

1. The design of this product contains special hardware and many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Services should be performed by qualified personnel only.
2. Alterations of the design or circuitry of the product should not be made. Any design alterations of the product should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacture of responsibility for personal injury or property damage resulting therefrom.
3. Many electrical and mechanical parts in the products have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the Parts List of Service Manual. Electrical components having such features are identified by shading on the schematics and by (⚠) on the Parts List in the Service Manual. The use of a substitute repalcement which does not have the same safety characteristics as the recommended replacement parts shown in the Parts List of Service Manual may create shock, fire, or other hazards.
4. The leads in the products are routed and dressed with ties, clamps, tubings, barriers and the like to be separated from live parts, high temperature parts, moving parts and/or sharp edges for the prevention of electric shock and fire hazard. When service is required, the original lead routing and dress should be observed, and it should be confirmed that they have been returned to normal, after re-assembling.
5. Leakage currnet check (Electrical shock hazard testing)
   After re-assembling the product, always perform an isolation check on the exposed metal parts of the product (antenna terminals, knobs, metal cabinet, screw heads, headphone jack, contorl shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.
   Do not use a line isolation transformer during this check.
   - Plug the AC line cord directly into the AC outlet. Using a "Leakage Current Tester", measure the leakage current from each exposed metal parts of the cabinet, particularily any exposed metal part having a return path to the chassis, to a known good earth ground. Any leakage current must not exceed 0.5mA AC (r.m.s.).
   - Alternate check method
     Plug the AC line cord directly into the AC outlet. Use an AC voltmeter having, 1,000 ohms per volt or more sensitivity in the following manner. Connect a 1,500Ω 10 W resistor paralleled by a 0.15 μF AC-type capacitor between an exposed metal part and a known good earth ground.
     Measure the AC voltage across the resistor with the AC voltmeter.
     Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and meausre the AC voltage across the resistor.
     Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.75 V AC (r.m.s.). This corresponds to 0.5 mA AC (r.m.s.).



Warning

1. This equipment has been designed and manufactured to meet international safety standards.
2. It is the legal responsibility of the repairer to ensure that these safety standards are maintained.
3. Repairs must be made in accordance with the relevant safety standards.
4. It is essential that safety critical components are replaced by approved parts.
5. If mains voltage selector is provided, check setting for local voltage.

Important for Laser Products

1. CLASS 1 LASER PRODUCT
2. DANGER : Invisible laser radiation when open and interlock failed or defeated. Avoid direct exposure to beam.
3. CAUTION : There are no serviceable parts inside the Laser Unit. Do not disassemble the Laser Unit. Replace the complete Laser Unit if it malfunctions.
4. CAUTION : The compact disc player uses invisible laser radiation and is equipped with safety switches which prevent emission of radiation when the drawer is open and the safety interlocks have failed or are defeated. It is dangerous to defeat the safety switches.
5. CAUTION : If safety switches malfunction, the laser is able to function.
6. CAUTION : Use of controls, adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.
7. CAUTION : The compact disc player provides a laser diode of wavelength 780-790nm and optical output power typical 3mW at the laser diode.

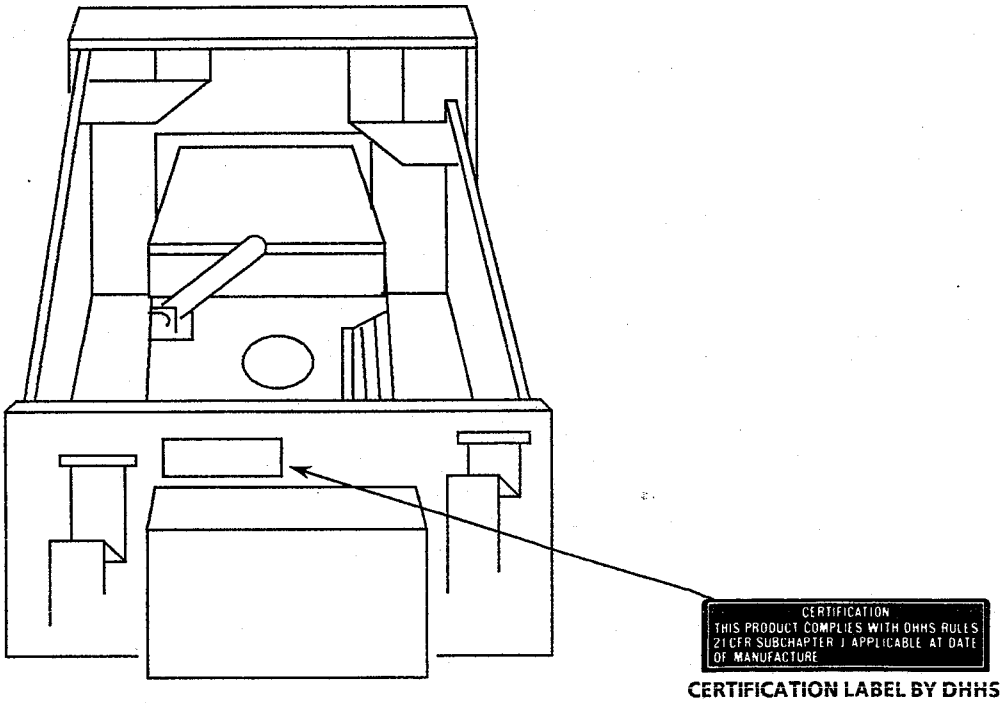
VARNING : Osynlig laserstrålning när denna del är öppnad och spärren är urkopplad. Betrakta ej strålen.

VARO : Avattaessa ja suojalukitus ohitettaessa olet alttiina näkymättömälle lasersäteilylle. Älä katso säteeseen.

ADVARSEL : Usynlig laserstråling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

ADVARSEL : Usynlig laserstråling ved åpning, når sikkerhetsbryteren er avslott. unngå utsettelse for stråling.

REPRODUCTION AND POSITION OF LABELS

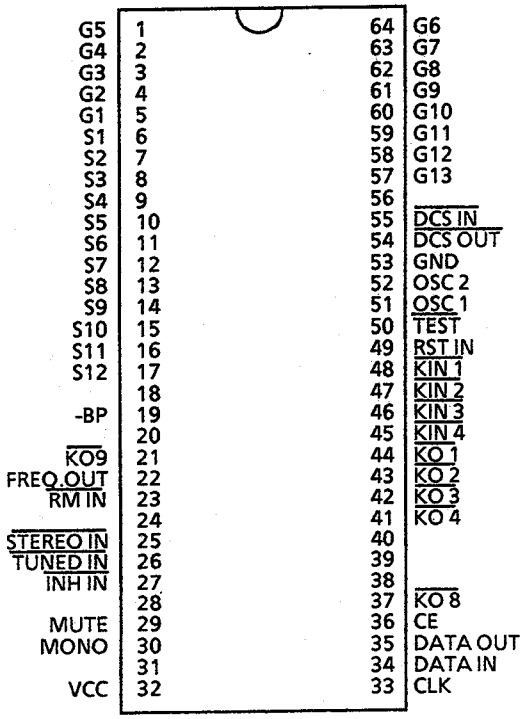


CERTIFICATION LABEL BY DHHS
(Only for the U.S.A.)

Description of Major LSIs

■ HD614089SC91 (IC201) : Tuner Control & FL Driver

(1) Terminal Layout



(2) Table of Key Matrix

	KEY-IN1	KEY-IN2	KEY-IN3	KEY-IN4
KEY-OUT1		TIMER 1	TIMER 2	DAILY
KEY-OUT2	WAKE-UP /SLEEP	CLOCK ADJ	CANCEL	MEMORY
KEY-OUT3	UP	DOWN	PRESET UP	PRESET DOWN
KEY-OUT4	FM	AM	FM MODE/MUTE	

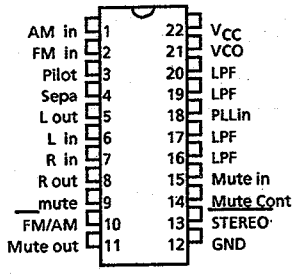
(3) Pin Functions

Pin No.	Name	I/O	Function
1~5	G5~G1	O	FL grid control output
6~17	S1~S12	O	FL segment control output
19	-BP	—	Power supply for FL drive circuit
21	KO9	O	Key matrix output
22	FREQ.OUT	O	Test signal output
23	RM IN	I	Pull up
25	STEREO IN	I	STEREO indicator input
26	TUNED IN	I	Tuned indicator input
27	INH IN	I	Inhibit signal input
29	MUTE	O	Muting output
30	MONO	—	NC
32	VCC	—	Power supply (+5V)
33	CLK	O	Serial clock output to PLL (IC102 : LC7218).
34	DATA IN	I	Serial data input from PLL (IC102 : LC7218).
35	DATA OUT	O	Serial data output to PLL (IC102 : LC7218).
36	CE	O	Chip enable output to PLL (IC102 : LC7218).
37	KO8	O	Key matrix output
41~44	KO4~KO1	O	Key matrix output
45~48	KI4~KI1	I	Key matrix input
49	RST IN	I	Reset signal input
50	TEST	—	Connect to Vcc
51	OSC 1	I	Clock oscillation input
52	OSC 2	O	Clock oscillation output
53	GND	—	GND
54	DCS OUT	O	COMPULINK signal output
55	DCS IN	I	COMPULINK signal input
57~64	G13~G6	O	FL grid control output

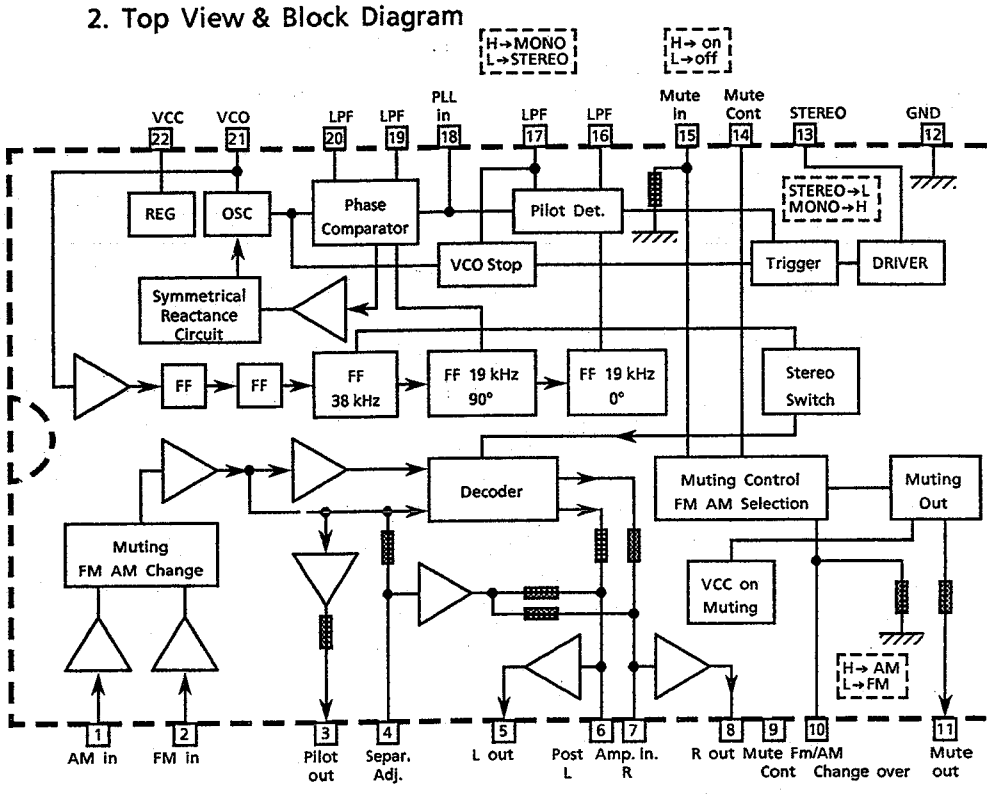
■ LA3401 (IC105) : FM MPX Demodulator

1. The main function descriptions
   (1) Demodulate the FM Multiplex Signal (Stereo signal).
   (2) When receiving FM Stereo Signal, it outputs the signal for indicator.
   (3) AM / FM Audio Amplifier.

(1) Terminal Layout



2. Top View & Block Diagram



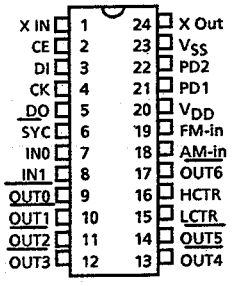
3. Pin Functions

Pin No.	Symbol	I/O	Function
1	AM in	I	This is an input terminal for AM detection signal.
2	FM in	I	This is an input terminal for FM detection signal.
3	Pilot out	O	Output of MPX pilot signal (Connect to Pin18).
4	Sepa. Adj.	---	Separation adjustment.
5	L. out	O	Left channel signal output.
6	L	O	Reversal output of Pin5.
7	R	O	Reversal output of Pin8.
8	R out	O	Right channel signal output
9	Mute Cont	---	The mute time is controlled by the connected capacitor when turning the power switch on.
10	$\overline{FM}$ / AM	I	Change over the FM / AM input. "H" : AM, "L" : FM
11	Mute out	---	Not use
12	GND	---	Ground terminal.
13	$\overline{Stereo}$	O	Stereo indicator output. Stereo : "L", Mono : "H"
14	Mute Cont	---	The mute time is controlled by the connected capacitor when changing over the FM / AM
15	Mute in	I	MutE signal input. "H" : Mute on, "L" : Mute off.
16	LPF	---	Low pass filter of pilot detector.
17	LPF	---	While this terminal goes to "H", the VCO stop.
18	Pilot in	I	PLL input.
19	LPF	---	Low-pass filter of PLL.
20	LPF	---	Low-pass filter of PLL.
21	VCO	I	Voltage controlled oscillator terminal.
22	V_{CC}	---	Power supply.

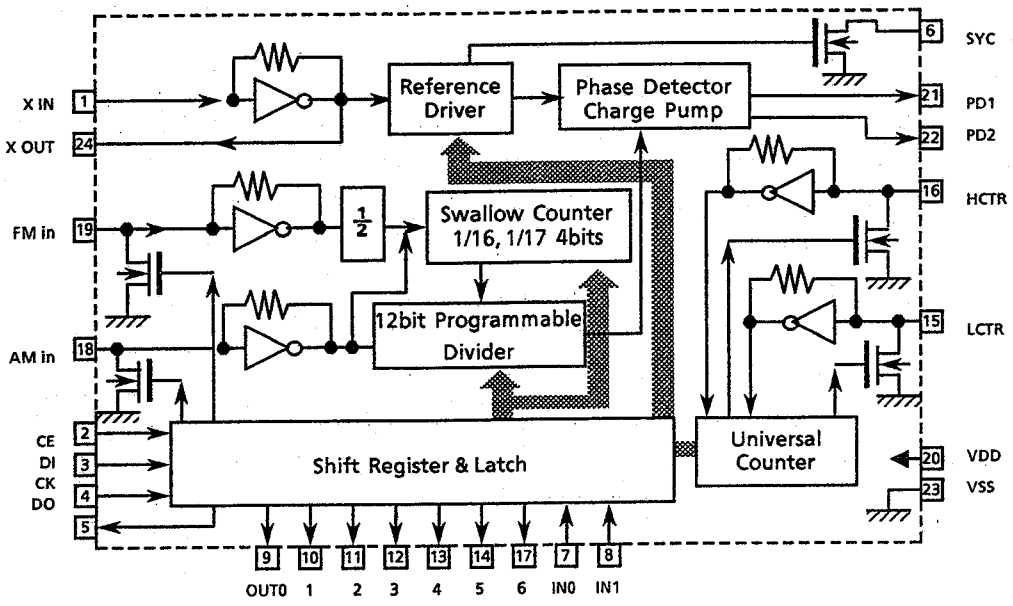
■ LC7218 (IC102) : PLL Synthesizer

1. The main function descriptions
   (1) It makes the local oscillation frequency by the control data from IC102.
   (2) Decode the control signal and transmit the signal for receiving conditions.
   (3) For the best tuning, count the internal-frequency and transmit the data to IC102.

2. Terminal Layout



3. Block Diagram



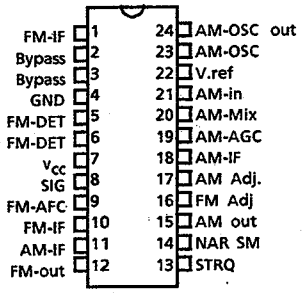
4. Pin Functions

Pin No.	Symbol	Name	I/O	Function
1, 24	X in, X out	X in, X out	I/O	Crystal oscillator (7.2MHz).
2	CE	CE	I	Fix the chip enable to "H" when inputting (DI) and outputting (DO) the serial data.
3	DI	DI	I	Receive the control data from the controller (IC201).
4	CK	CK	I	This clock is used to synchronize data when transmitting the data of DI and DO.
5	DO	DO	O	Transmit the data from LC7218 to the controller which is synchronized with CK.
6	SYC	$\overline{SYC}$	—	Not use
7	IN0	$\overline{Tuned\ in}$	I	Receive the tuned signal from IC104 (LA1266A).
8	IN1	Stop in	I	Not use
9	OUT 0	POWER	O	Not use
10	OUT 1	QSC	O	Not use
11	OUT2	MONO	O	It is "H" on FM-monaural, "L" on FM-stereo.
12	OUT3	$\overline{FM}$	O	It is "L" on FM mode.
13	OUT4	$\overline{MW}$	O	It is "L" on AM mode.
14	OUT5	$\overline{LW}$	O	Not use
15	LCTR	AM-IF	I	Universal counter input for AM-IF from IC104 (LA1266A).
16	HCTR	FM-IF	I	Universal counter input for FM-IF from IC104 (LA1266A).
17	OUT6	IF REQ	O	Output the "IF-signal request" to IC104 when the pin-7 (tuned in) goes to "H".
18	AM in	AM osc	I	Input the local oscillator signal of AM.
19	FM in	FM osc	I	Input the local oscillator signal of FM.
20	V_{DD}	V_{DD}	—	This is a terminal of power supply.
21	PD1	PD1	O	PLL charge pump output : When the local oscillator signal frequency is higher than the reference frequency, high level signals will output. When it is lower than the reference frequency, low level signals will output. When it is same as reference frequency signals, it will be floating.
22	PD2	PD2	O	Not use
23	Vss	Vss	—	GND

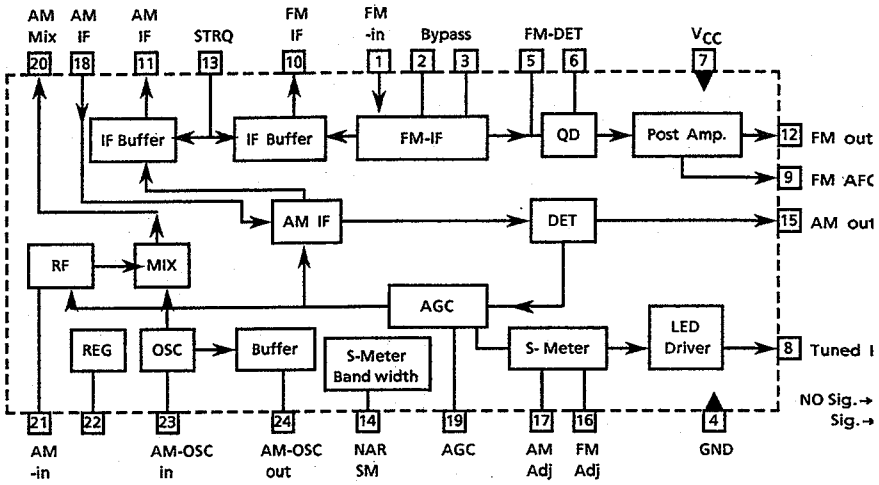
■ LA1266A (IC104) : FM AM IF AMP & detector

1. The main function descriptions
   (1) Amplify and detect of FM intermodulation frequencies.
   (2) It has local oscillator and mixer for AM, and amplify the AM-IF signal.

2. Top View



3. Block Diagram

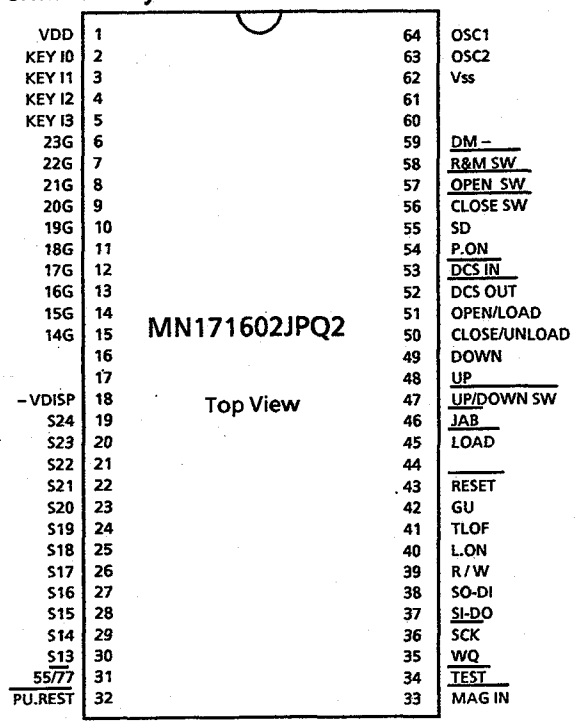


4. Pin Functions

Pin No.	Symbol	I/O	Function
1	FM IF	I	This is an input terminal of FM IF Signal.
2, 3	Bypass	-	Bypass of FM IF Amp.
4	GND	-	This is the device ground terminal.
5, 6	FM DET	-	FM detect transformer.
7	V_{CC}	-	This is the power supply terminal.
8	SIGNAL	O	Mute drive and signal stop drive output when tuning. Active Low
9	FM AFC	O	This is an output terminal of voltage for FM - AFC.
10	FM IF	O	When the IF REQ signal of IC102(LC7218) applies to pin13, the signal of FM IF outputs.
11	AM IF	O	When the IF REQ signal of IC102(LC7218) applies to pin13, the signal of AM IF outputs.
12	FM out	O	FM detection output.
13	STRQ	I	The IF-signals come out from pin10 (FM-IF) or pin11 (AM-IF) while this terminal goes to "High".
14	NAR SM	-	Control the Band-width of AM signal meter.
15	AM out	O	AM detection output.
16	FM Adj	-	For adjust the stop level (or mute level) of FM.
17	AM Adj	-	For adjust the stop level (or mute level) of AM.
18	AM-IF	I	Input of AM IF Signal.
19	AM-AGC	I	This is an AGC voltage Input terminal for AM.
20	AM-MIX	O	This is an output terminal for AM mixer.
21	AM-IN	I	This is an input terminal for AM RF Signal.
22	V.REF	-	Control the Band-width of FM signal meter.
23	AM-OSC	-	This is a terminal of AM Local oscillation circuit.
24	AM-OSC out	O	AM Local Oscillation Signal output.

■ MN171602JPQ2 (IC901) : CD SYSTEM CONTROLLER

1. Terminal Layout



2. Key Matrix

	KEY IN 0	KEY IN 1	KEY IN2	KEY IN3
G14	2	4	6	P
G15	EJECT	1	3	5
G16	+10 ⏮	+1 ⏭	■ /CANCEL	▶ / II
G19	SIDEA/B	CALL	REPEAT	⏏
G20	EDIT	MEMORY	INTRO	P.MODE

3. Pin Functions Description

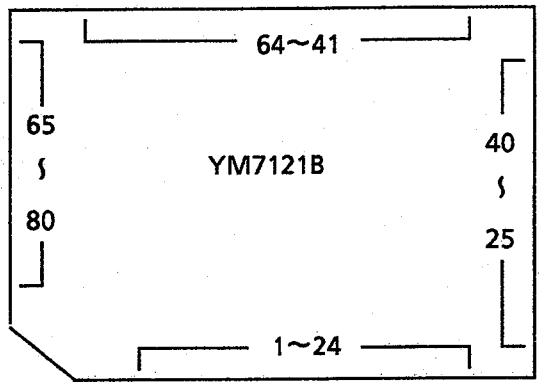
Pin NO.	symbol	I/O	Function	Pin NO.	symbol	I/O	Function
1	VDD	I	Power supply	33	MAG-IN	I	Magazine in signal
2	KEY I0	I	Key matrix input	34	TEST	I	Entering test mode with "L"
3	KEY I1	I	Key matrix input	35	WQ	I	Write request input
4	KEY I2	I	Key matrix input	36	SCK	O	Clock output for data transfers
5	KEY I3	I	Key matrix input	37	SI-DO	I	Serial data input
6	23G	O	FL grid control output	38	SO-DI	O	Serial data output
7	22G	O	FL grid control output	39	R/W	O	Read / Write signal output
8	21G	O	FL grid control output	40	L.ON	O	Turns on laser
9	20G	O	FL grid control output	41	TLOF	O	Tracking servo off signal
10	19G	O	FL grid control output	42	GU	O	Increases tracking gain
11	18G	O	FL grid control output	43	RESET	I	Reset signal input
12	17G	O	FL grid control output	44		I	Connect to GND
13	16G	O	FL grid control output	45	LOAD	I	Disc load detect signal
14	15G	O	FL grid control output	46	JAB	I	JAB switch signal
15	14G	O	FL grid control output	47	UP/DOWN SW	I	Height detection signal
16		-	Non connect	48	UP	O	Lifter driving control signal
17		-	Non connect	49	DOWN	O	Lifter driving control signal
18	-VDISP	I	FL power supply	50	CLOSE/UNLOAD	O	P1 CLOSE or UNLOAD driving control signal.
19	S24	O	FL segment control output	51	OPEN/LOAD	O	P1 OPEN or LOAD.
20	S23	O	FL segment control output	52	DCS OUT	O	Compulink signal output
21	S22	O	FL segment control output	53	DCS IN	I	Compulink signal input
22	S21	O	FL segment control output	54	P.ON	O	H:power off, L:power oN.
23	S20	O	FL segment control output	55	SD	O	LOAD drive speed Down output.
24	S19	O	FL segment control output	56	CLOSE SW	I	"L" with tray closed
25	S18	O	FL segment control output	57	OPEN SW	I	"L" with tray opened
26	S17	O	FL segment control output	58	R&M SW	I	Reset&Memory SW input.
27	S16	O	FL segment control output	59	DM-	I	Spindle signal input
28	S15	O	FL segment control output	60		-	Connect to GND
29	S14	O	FL segment control output	61		-	Non connect
30	S13	O	FL segment control output	62	Vss	-	GND
31	55/77	I	Chip select input (H:55,L:77)	63	OSC2	O	Clock oscillation output
32	PU:REST	I	"L" with pickup at rest position	64	OSC1	I	Clock oscillation input

■YM7121B(IC401)

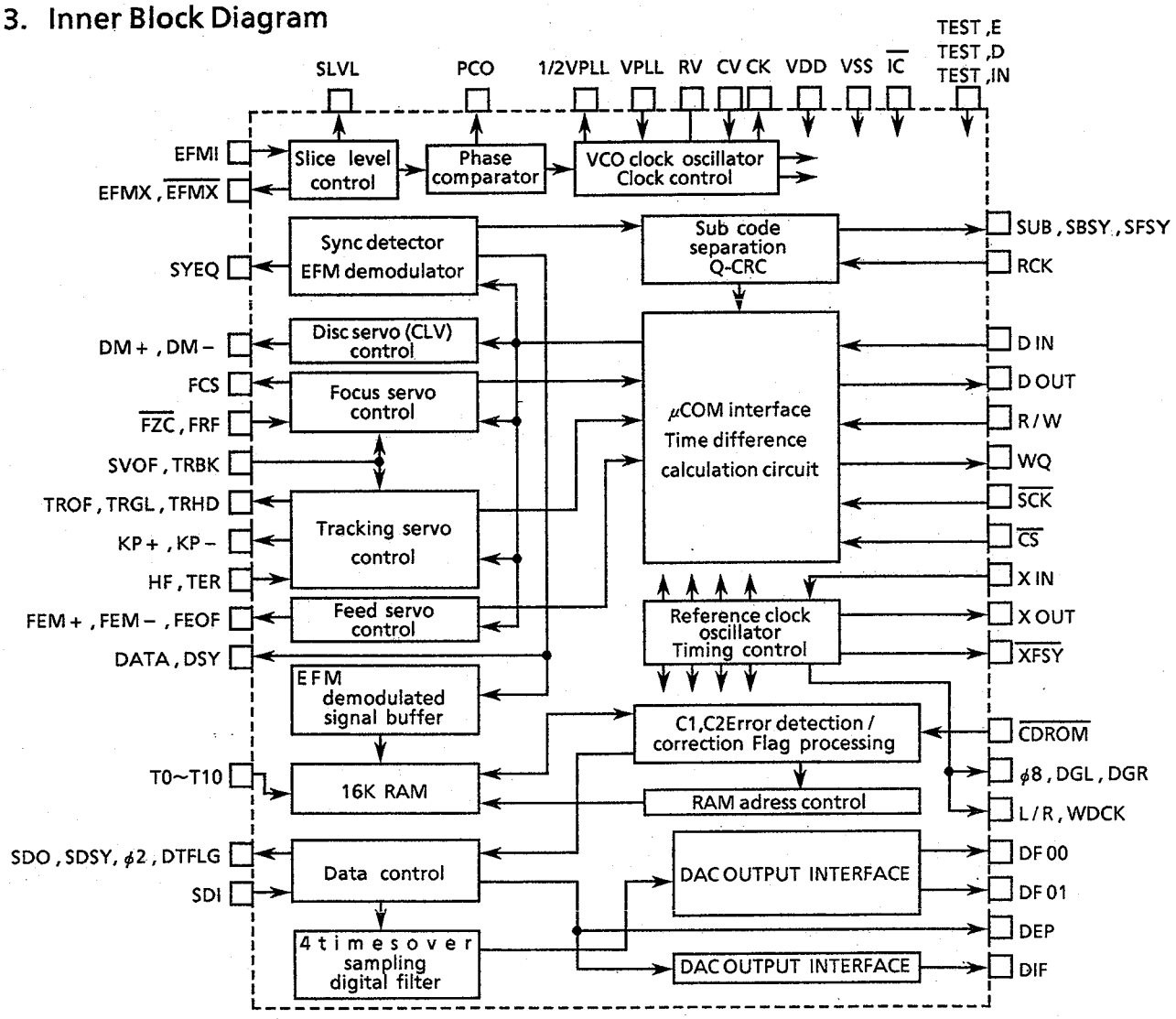
1. Outline

YM7121 is a C-MOS LSI for signal processing and servo control (SVC) in a CD player. It is used for the demodulation of the EFM signal from the laser pick up , detection / correction of the error signal , signal processing in digital filtering , etc. and for various servo controls (focusing , disc , tracking and feed servos).
And it contains digital interface which output the audio digital signals in S-RAM and CD-player. This digital interface matches EIAJ standards.

2. Top View



3. Inner Block Diagram



4. Pin Functions Description

Pin No.	Symbol	I/O	Function
1	CV	I	Adequate time constant is added to this terminal and input the PCO output. This makes the structure of clock reproduce circuit by inner VCO circuit.
2	RV	–	RV terminal is standard voltage terminal of inner VCO. And capacity for stabilizing is added to this terminal.
3 32 72	VDD	–	These are +5V power supply terminals.
4 5 70	TEST. IN TEST. E TEST. D	I I I	These terminals are for test.
6	SYEQ	O	This is the check output terminal, it becomes high when flame synchronizing signal detected from EFM pattern coincides frame synchronizing signal from internal counter.
7	DSY	O	DSY is synchronizing signal which becomes high when first signal of data output comes in. This terminal is the check terminal.
8	DATA	O	This terminal is for checks. The DATA is a serial signal of CK bit rate and it contains 8 bit EFM demodulation signal and 5 bit data control signal in 17 bit.
9	CK	O	CK has 4.3218 MHz clock.
10~19	T0~T9	I	This terminal is internal RAM test terminal, and connected GND.
22	DEP	O	De-emphasis is necessary when this terminal is high.
23	DIF	O	DIF is digital audio interface format output matched EIAJ standards.
24	SDO	O	SDO is a serial signal output of $\phi 2$ bit rate. (The MSB puts in at first.)
25	SDI	I	SDI is the input terminal of 4 times over sampling digital filter. It is usually connected with SDO.
26	SDSY	O	This terminal changes the Lch/Rch by LSB of the SDO.
27	DTFLG	O	Not used.
28	$\phi 2$	O	$\phi 2$ is 2.1168 MHz crystal clock.
29, 52, 77	VSS	–	GND
30 31	XOUT XIN	O I	The clock frequency is generated by crystal oscillator (16.9344MHz) and connecting capacitors each pin.
33 34 35 36 37 38	$\overline{\text{XFSY}}$ SUB SBSY RCK $\overline{\text{SFSY}}$ CDROM	O O O I O O	Not used.
39	$\phi 8$	O	$\phi 8$ is 8.4672MHz crystal clock.
40 41	WDCK L/R	O O	This is synchronizing signal for data transfer and it connects with DAC.
42 43	DGL DGR	O O	Not used.
44 45	DF01 DF00	O O	Serial data output. (Right channel.) Serial data output. (Left channel.)
46	$\overline{\text{SCK}}$	I	This terminal is connected to μCOM. It is an input terminal that carries the clock signal for data transfers.
47	R/W	I	This connects with microcomputer and it is an output terminal for switching data transmission mode. it enables to transmit data from SVC to microcomputer when R/M is "L" and from microcomputer to SVC when R/W is "H".
48	$\overline{\text{CS}}$	I	This is a chip select terminal for YM7121B.
49	DOUT	O	This terminal is the data output terminal connected to μCOM. When R/W is low, data is transferred from YM7121B to μCOM, according to theSCK clock input.

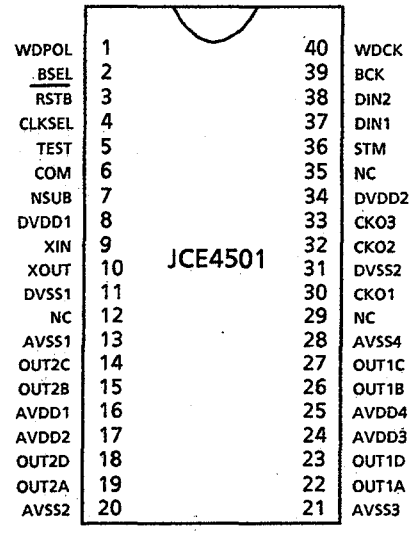
Pin No.	Symbol	I/O	Function
50	WQ	O	This terminal is connected to μCOM. It is a request signal which demands to μCOM inputting the data transfer (YM7121B to μCOM).
51	DIN	I	This is a data input terminal connected to μCOM. When R/W is high, the data is transferred from μCOM to YM7121B according to the SCK clock input.
53 54	DM+ DM−	O O	These terminals output the PWM to control the speed of spindle motor. The speed of the motor goes up when DM+ is high, and slows down when DM− is high: both terminals can not become high simultaneously.
55 56 60 61 62 63 64	HF TER TRHD TRGL TROF KP− KP+	I I O O O O O	When tracks are being crossed during serches, the amplitude variation of the generated HF signal is sampled at the zero−cross point of the tracking error signal TER and the TROF signal is output. The level variations of this signal turn the servo on and off, greatly facilitaing track acquisition. KP+ or KP− is output to conduct tracking, and TRHD is output during tracking to cause generation of the tracking error signal. The TRGL signal is for increasing the tracking gain after tracking is completed.
57 58 59	FEM+ FEM− FEOF	O O O	The FEM+ and FEM− are output as high speed feed signals, and FEOF signal is output for cutting the feed servo during high speed feed.
65	TRBK	I	TRBK is input to apply tracking brake from outside. TRGL becomes low with high input and inner control signal TBKE becomes high.
66	SVOF	I	When the signal inputs to SVOF, tracking and feed srvo set to OFF. TROF and FEOF become "H" with high input, and TRHD, KP+, KP− become low.
67 68 69	$\overline{\text{FZC}}$ FCS FRF	I O I	These terminals are used for controlling the focus servo. The FCS is for a leading signal of Focusing; the signal, generated when the focus point is achieved, terminate the focusing operation; and FCO flag is dropped internally by FRF signal generated when reflected light is detected.
71	$\overline{\text{IC}}$	I	YM7121B needs initializing when power supply turn on. IC will be low more than 400μs since XIN is input clock with VDD standard.
73 74 75	SLVL EFMX $\overline{\text{EFMX}}$	O O O	Amplitude limited, mutually anti-phased signals are output from EFMX and $\overline{\text{EMFX}}$. Slice level is controlled by these signals and external amplifier. SLVL is output amplitude alteration component of both terminals. When integral circuit is connected to external. YM7121B easily can control slice level.
76	EFMI	I	This terminal is input EFM signal. (1~2 Vpp)
78	PCO	O	This terminal outputs the phase difference when the polarity of the clock and the EFM pattern changes.
79	VPLL	I	This terminal is input D.C. voltage matched VCO free run frequency. (17.2872 MHz)
80	1/2 VPLL	O	This terminal outputs a half of VPLL input, and capacity for stabilizing is added to this terminal.

■ JCE4501(IC703)··· D/A CONVERTER

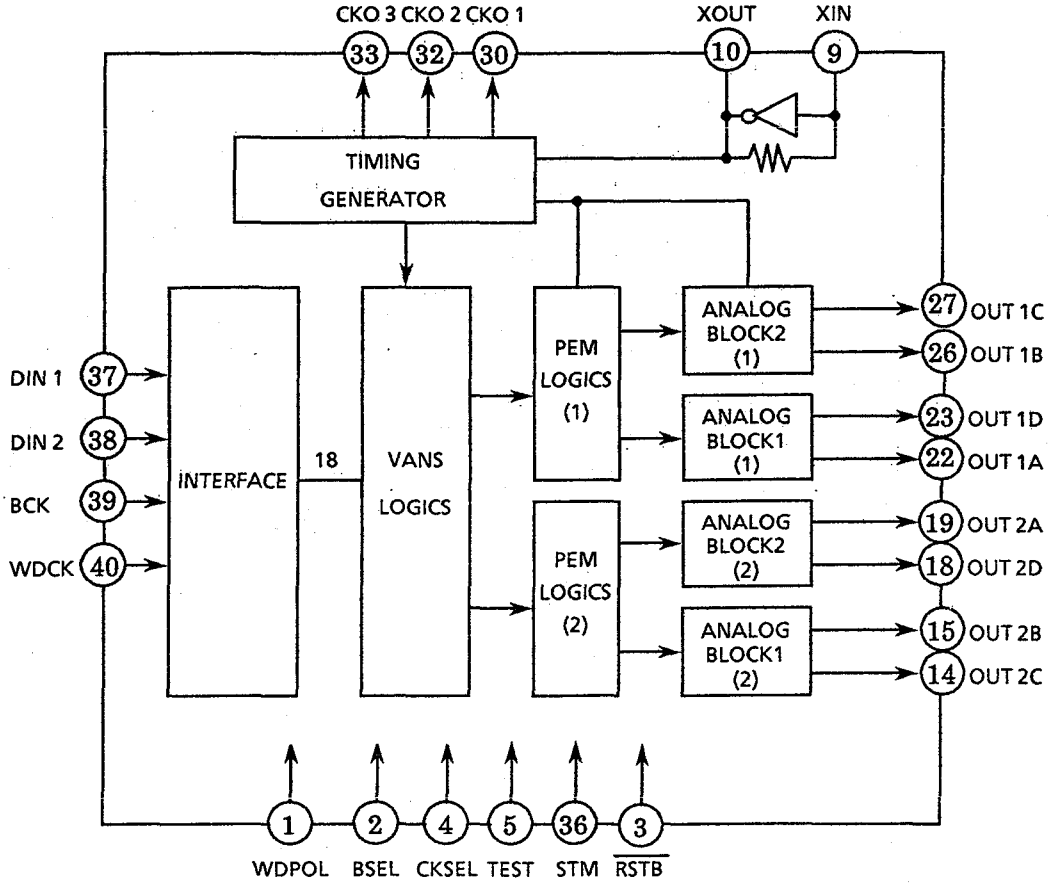
1. Outline

The JCE4501 is a CMOS digital-analog converter with independent left and right channels. It was developed for PCM digital audio equipment. It features pulse edge modulation (PEM) and Victor advanced noise shaping (VANS) for resolution equivalent to 20 bits (0-20 kHz) and a low distortion ratio. At JVC, this type of digital-analog converter is called a DD converter.

2. Terminal Layout



3. Internal Block Diagram

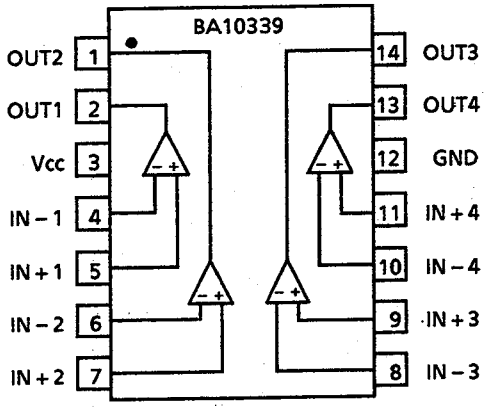


4. Pin Functions Description

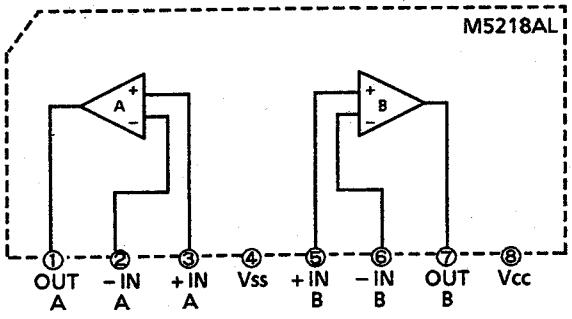
Pin No.	Symbol	I/O	Function
1	WDPOL	I	Word data polarity switching pin
2	BSEL	I	High : CXD 2554P format, low : YM3414 format
3	$\overline{\text{RSTB}}$	I	Reset pin (low active)
4	CLKSEL	I	High: 256Fs mode, low: 384 Fs mode
5	TEST	I	Test mode switching pin
6	COM	I	COM board voltage fastening pin (connected to D-VDD)
7	NSUB	I	Silicon board voltage fastening pin (connected to D-VDD)
8	DVDD1	—	Digital power supply pin 1
9	XIN	I	Crystal oscillator input pin
10	XOUT	O	Crystal oscillator output pin
11	DVSS1	—	Digital ground pin 1
12	NC	—	To ground
13	AVSS1	—	Analog ground pin 1
14	OUT2C	O	2C PEM output pin
15	OUT2B	O	2B PEM output pin
16	AVDD1	—	Analog power supply pin 1
17	AVDD2	—	Analog power supply pin 2
18	OUT2D	O	2D PEM output pin
19	OUT2A	O	2A PEM output pin
20	AVSS2	—	Analog ground pin 2
21	AVSS3	—	Analog ground pin 3
22	OUT1A	O	1A PEM output pin
23	OUT1D	O	1D PEM output pin
24	AVDD3	—	Analog power supply pin 3
25	AVDD4	—	Analog power supply pin 4
26	OUT1B	O	1B PEM output pin
27	OUT1C	O	1C PEM output pin
28	AVSS4	—	Analog ground pin 4
29	NC	—	To ground
30	CKO1	O	Clock output pin 1 (384 Fs output)
31	DVSS2	—	Digital ground pin 2
32	CKO2	O	Clock output pin 2 (192 Fs output)
33	CKO3	O	Clock output pin 3 (128 Fs output)
34	DVDD2	—	Digital power supply pin 2
35	NC	—	Not connected
36	STM	I	Stereo/monaural switching pin (high: stereo output, low: left channel, reversed polarity left channel)
37	DIN1	I	Left channel 18-bits 8Fs serial data input pin
38	DIN2	I	Right channel 18-bits 8Fs serial data input pin
39	BCK	I	Bit clock input pin
40	WDCK	I	Word clock input pin

Internal Block Diagrams of Other ICs

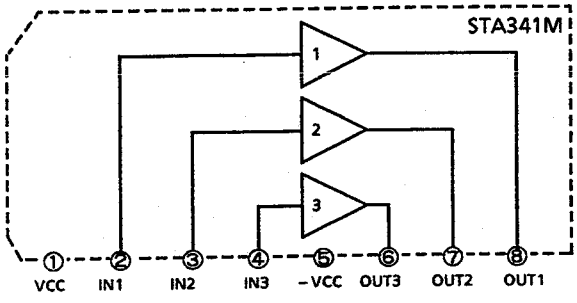
■ BA10339 (IC502) : Comparator



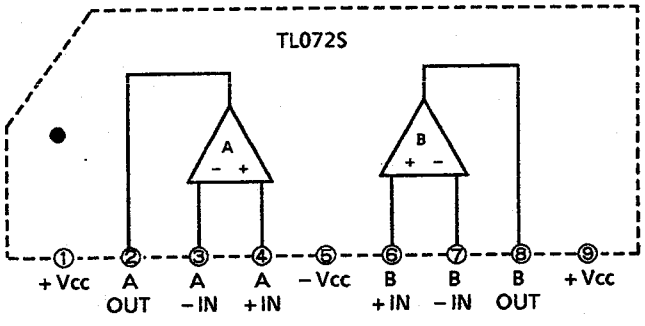
■ M5218AL (IC503,701,702,802,851,871)
: Dual OP Amp.



■ STA341M (IC801) : Motor Driver



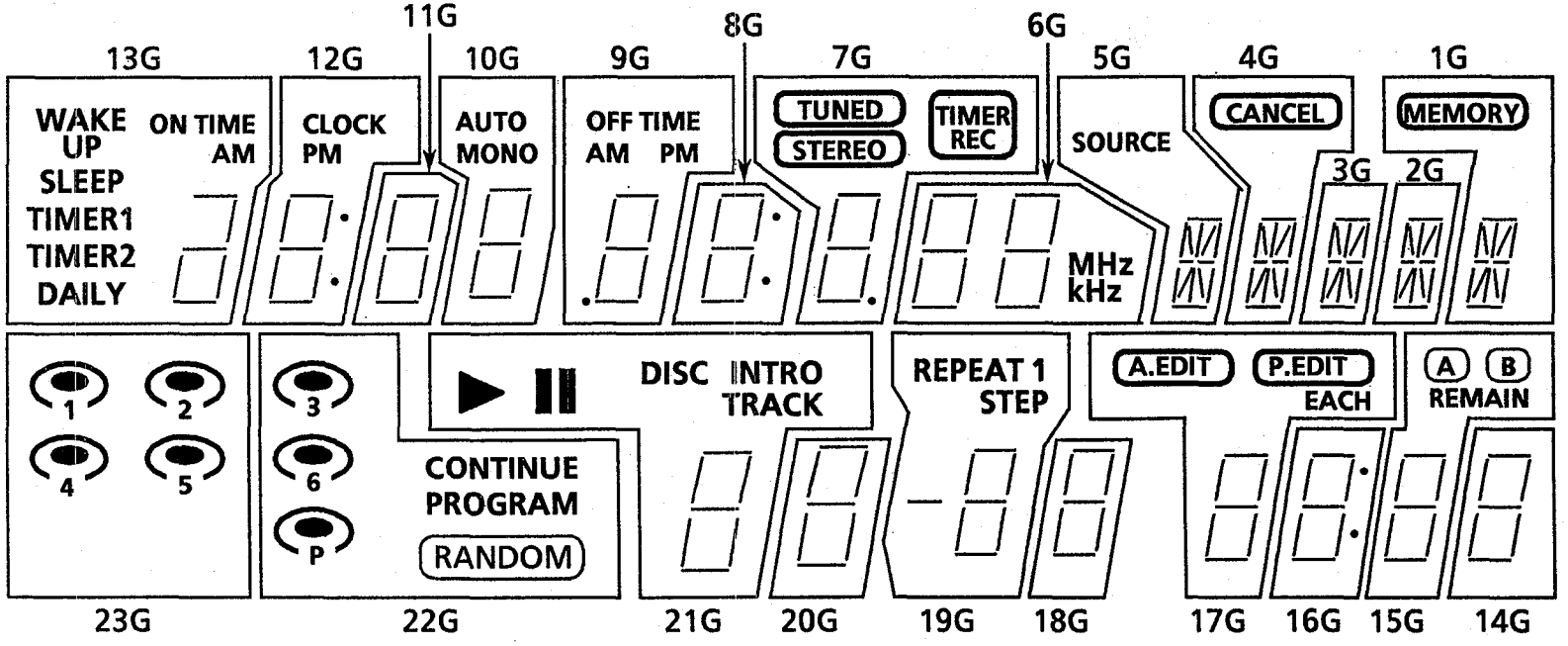
■ TL072S (IC501) : Dual OP Amp.

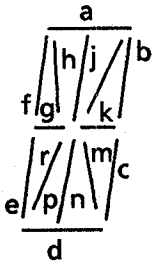


Internal Wiring of the FL Display Tube

■ ELU0001-135:(FL201)

1.Grid Assignment





2.Pin Connection

TERMINAL NO. ELECTRODE	1 F1	2 F1	3 F1	4 NP	5 NP	6 13G	7 12G	8 11G	9 10G	10 9G	11 8G	12 7G	13 6G	14 5G	15 4G	16 3G	17 2G	18 1G	19 P S1	20 P S2
TERMINAL NO. ELECTRODE	21 P S3	22 P S4	23 P S5	24 P S6	25 P S7	26 P S8	27 P S9	28 P S10	29 P S11	30 P S12	31 NP	32 NP	33 23G	34 22G	35 21G	36 20G	37 19G	38 18G	39 17G	40 16G
TERMINAL NO. ELECTRODE		41 15G	42 14G	43 P S24	44 P S23	45 P S22	46 P S21	47 P S20	48 P S19	49 P S18	50 P S17	51 P 16	52 P S15	53 P S14	54 P S13	55 NP	56 NP	57 F2	58 F2	59 F2

(No.2038)

XT-M

3.Anode Connection Table

	13G	12G	11G	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G
S1	d	d	d	d	d	d	d	d	d	d	d	d	d
S2	—	e	e	e	e	e	e	e	e	e	e	e	e
S3	c	c	c	c	c	c	c	c	c	c	c	c	c
S4	g	—	—	—	—	—	—	KHz	r	r	r	r	m
S5	b	col (:)	—	—	DP (.)	col (:)	DP (.)	MHz	k	n	n	n	n
S6	DAILY	—	—	—	AM	—	STEREO	i	j,p	j,p	j,p	j,p	j,p
S7	TIMER 2	g	g	g	g	g	g	g	g,m	g,m	g,m	g,m	g
S8	TIMER 1	f	f	f	f	f	f	f	f	f	f	f	f
S9	SLEEP	b	b	b	b	b	b	b	b	b	b	b	b
S10	WAKE UP	a	a	a	a	a	a	a	a	a	a	a	a
S11	AM	PM	—	MONO	PM	—	TUNED	j	h	h	h	h	h,k
S12	ON TIME	CLOCK	—	AUTO	OFF TIME	—	TIMER REC	h	SOURCE	CANCEL	k	k	MEMORY

	23G	22G	21G	20G	19G	18G	17G	16G	15G	14G
S13	⬭	CONTINUE	DISC	—	▭	—	—	—	—	—
S14	⬭	⬭	TRACK	—	STEP	—	EACH	col (:)	REMAIN	—
S15	●	●	a	a	a	a	a	a	a	a
S16	5	6	b	b	b	b	b	b	b	b
S17	⬭	●	c	c	c	c	c	c	c	c
S18	4	RANDOM	d	d	d	d	d	d	d	d
S19	●	P	e	e	e	e	e	e	e	e
S20	●	PROGRAM	f	f	f	f	f	f	f	f
S21	1	⬭	g	g	g	g	g	g	g	g
S22	⬭	⬭	▶	—	REPEAT	—	P.EDIT	—	A	—
S23	●	●	⏸	—	1	—	—	—	B	—
S24	2	3	INTRO	—	—	—	A.EDIT	—	—	—

Disassembly Procedures

1. Removing the top cover

1) Remove the 2 screws fastening both sides of the Top Cover, and the 2 screws fastening the rear sides.
2) Remove the Top Cover.

2. Removing the front panel

1) Remove the 3 hooks.
2) Remove the 1 screws fastening bottom of the Front Panel.
3) Disconnect the connectors. (JB221,JB222)
4) Remove the Front Panel.

3. Removing the changer assembly

1) Remove the top cover.
2) Remove the front panel.
3) Remove the 2 screws Ⓑ fastening the changer assembly.
4) Disconnect the connectors. (ⒸⒹⒺⒻⒼ)
5) Slide the changer assembly to arrow direction ①.
6) Remove the changer assembly.
   * NOTICE (for reinstalling)
   Wire Ⓗ should be set as Fig.2.

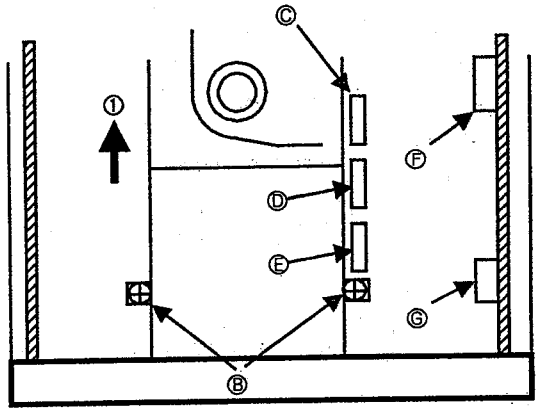


Fig.1

4. Removing the turntable base (Fig.2)

1) Remove the changer assembly.
2) Turn over the changer assembly.
3) Remove the 3 screws ①.
   * NOTICE : The left side spring differs from the right side ones.
4) Take the turntable base out.

5. Exchanging the pickup (Fig.2)

1) Remove the screw Ⓙ, and remove the feed nut support.
2) Remove the screw Ⓚ.
3) Remove the Feed Screw assembly , and remove the Pickup with the pickup shaft.
4) Exchange the pickup.

6. Removing the magazine holder (Fig.3)

1) Remove the 2 screws fastening the magazine holder.
2) Slide the magazine holder to arrow direction Ⓛ.
3) Remove the magazine holder to upside , and remove the tray stopper at the same time.

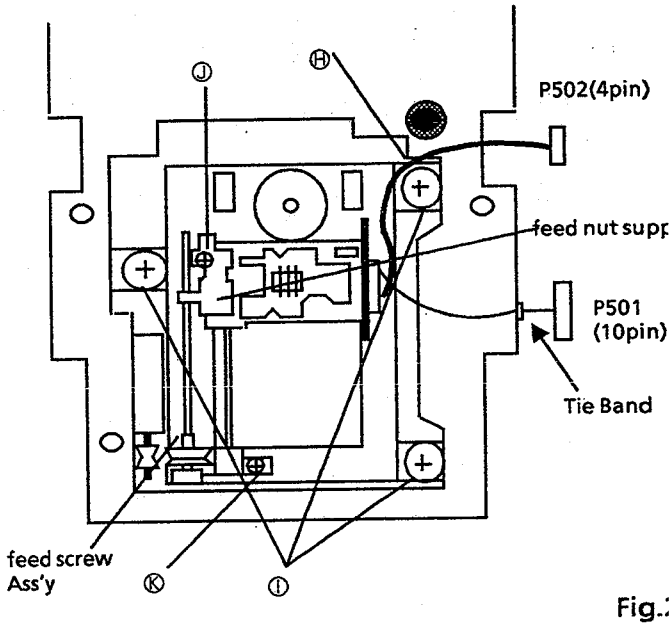


Fig.2

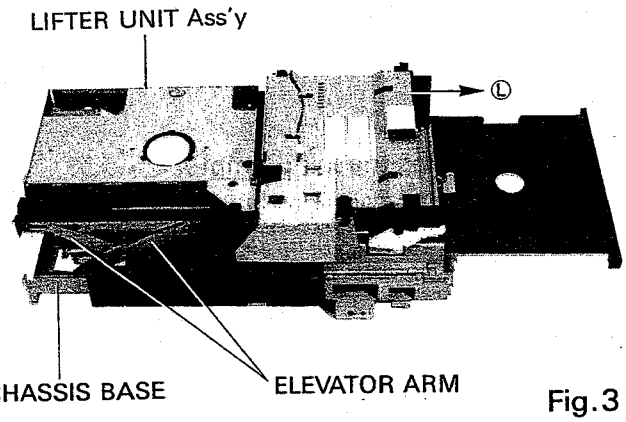


Fig.3

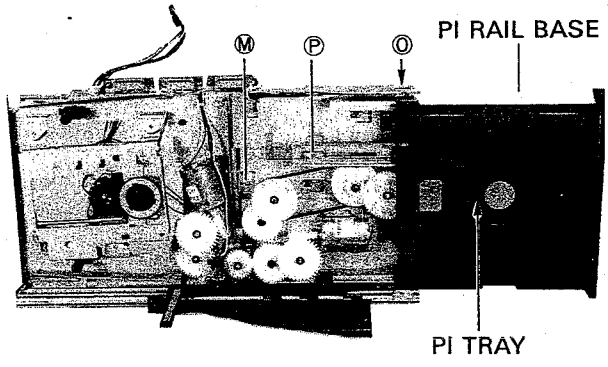


Fig.4

7. Removing the LIFTER UNIT Ass'y (Fig.3)

1) Remove the MAGAZINE HOLDER.
2) Lift the LIFTER UNIT Ass'y to the top position.
3) Remove the ELEVATOR ARMS from the CHASSIS BASE and the LIFTER UNIT Ass'y.
4) Remove the LIFTER UNIT Ass'y.

※ The LIFT CAM can be released, After removing the LIFTER UNIT Ass'y (Fig.7)

1) When installing the lift cam, Put the cam slider to the position shown in fig 7.
2) Install the changer assembly.
3) Set the power ON to operate the mechanism.
4) Set the power OFF while the disc is playing.
5) Set the power ON again. In this case the unit will be reseted.

8. Removing the P1 RAIL BASE Ass'y (Fig.4,8)

1) Rotate the gear Ⓝ clockwise a little.
2) Remove the P1 TRAY.
3) Remove the screw Ⓜ.
4) Remove the P1 RAIL BASE Ass'y.

9. Removing the P1 RAIL BASE (Fig.4,5,6)

1) Remove the P1 RAIL BASE Ass'y.
2) Remove the screw Ⓞ fixing the open/close sw and the sw.
3) Pull the P1 RAIL BASE by pulling up the hook Ⓟ sightly.
4) Remove the P1 RAIL BASE.

※ Install gear ⓑ so that part ⓐ shown in fig.5 is perpendicular to the P1 rail base.

The Gear Position when the P1 Rail Base is pulled out forward.

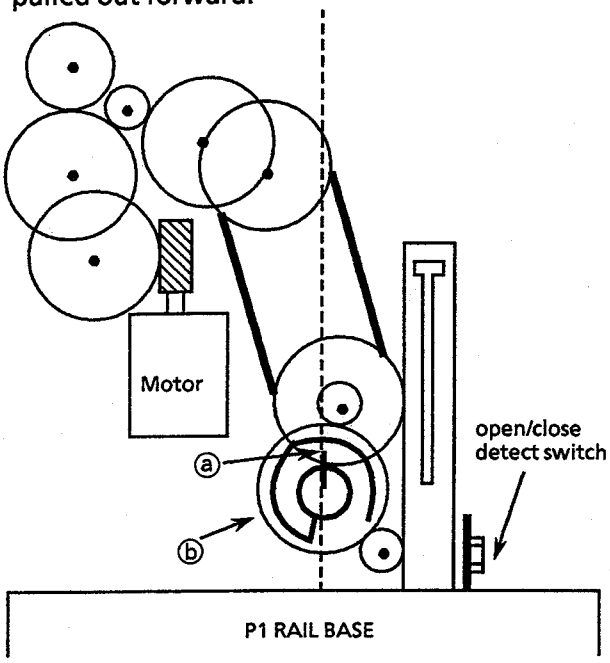


Fig.5

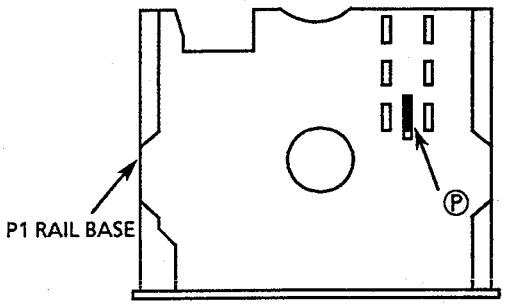


Fig.6

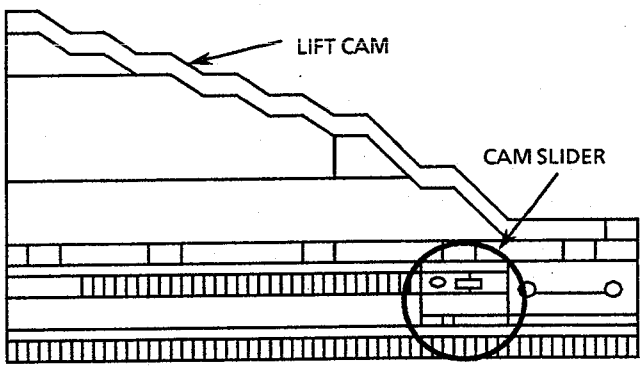


Fig.7

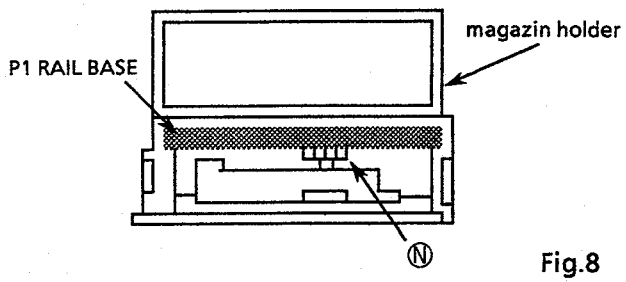
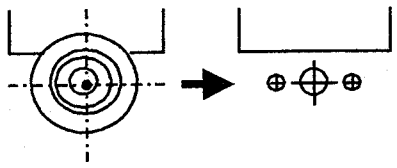


Fig.8

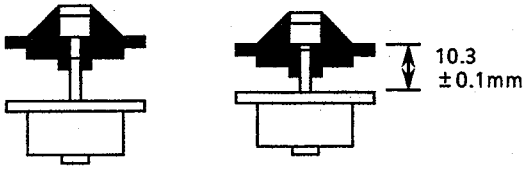
10. Removing the spindle motor

1) Remove the TURN TABLE BASE.
2) Turn over TURN TABLE BASE.
3) Remove the pressed-in turntable.
4) Remove the 2 screws fastening the motor.
5) Remove the spindle motor.

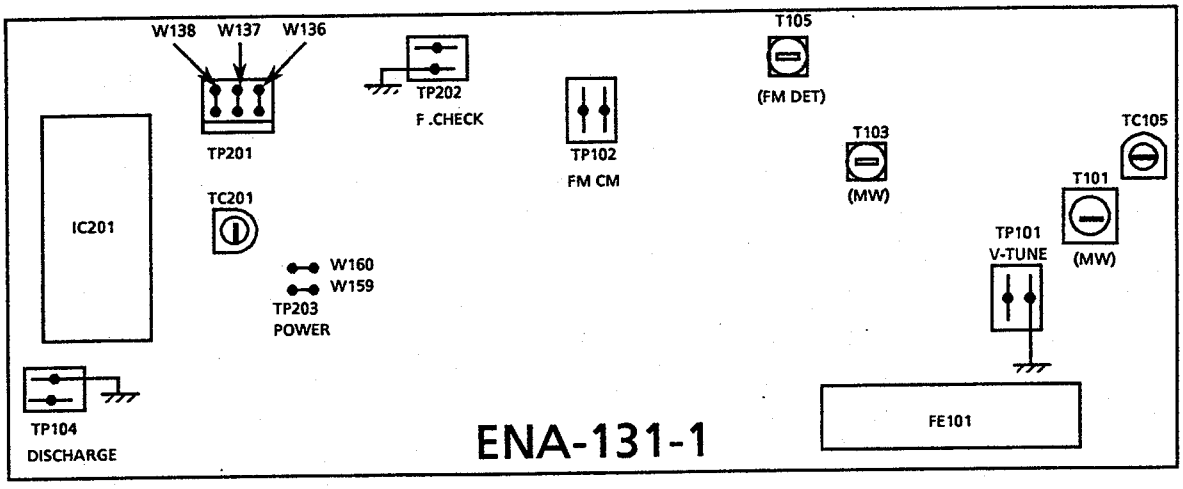


11. Mounting the spindle motor

1) Alternately tighten the 2 screws.
2) Fit the turntable by pressing gently at the centre to obtain a distance of 10.3mm ± 0.1mm from the mechanism base to the top of the turntable.



FM / AM Tuner Alignment Procedures



1. FM section

■ FM oscillator

(1) Set the frequency display to 108.0MHz.
(2) Confirm that the FM inter-station noise is received.
(3) Confirm that the voltage of test point TP101 becomes 8.0 ± 2.0V.
(4) Set the frequency display to 87.5MHz and confirm the voltage of test point TP101 becomes 1.6 ± 1.0V.

■ FM detector coil : T105

(1) Connect a digital voltmeter to test point TP 102, and receive to 100.1MHz signal with SSG ATT 70dB.
(2) Adjust T105 so that the digital voltmeter reads 0 ± 1.5mV.

2. MW section

■ MW oscillator : T103

(1) Set the frequency display to 530kHz ai confirm that the voltage of test point TP101 becomes 0.9 ± 0.2V.
(2) Set the frequency display to 1710kHz and confirm that the voltage of test point TP101 becomes 8.0 ± 0.8V .
(3) If its voltage exceeds the allowance, adjust T103 to obtain the voltage.

■ MW antenna coil : T101

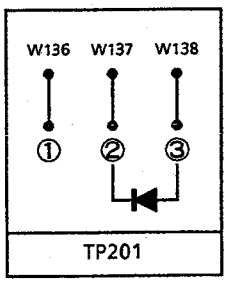
(1) Connect a loop antenna to the "AM Loop" terminal on the rear panel.
(2) Adjust T101 to obtain the best receivi sensitivity on 600kHz or 603kHz.

■ MW antenna trimmer : TC105

(1) Adjust TC105 to obtain the best receiving sensitivity on 1400kHz or 1404kHz.

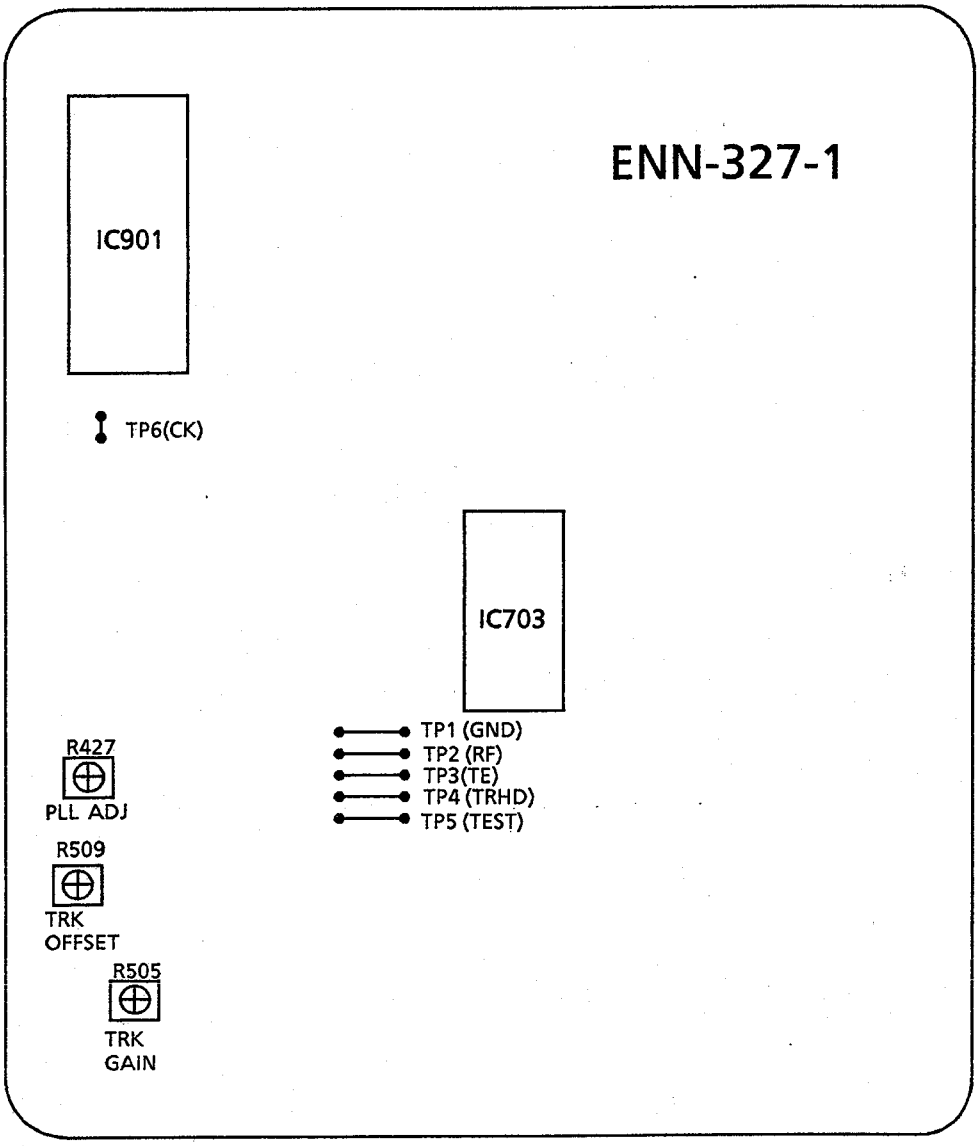
Clock Generator Frequency Adjustment

1. Switch OFF the DX-MX77MTN's power source, then pull out the AC plug.
2. Short circuit TP201's terminals ② and ③ with the diode as shown in the accompanying diagram, then insert the AC plug into the receptacle to switch the power ON.
3. Confirm that the tuner's FL display is off, then remove the diode and connect the frequency counter to TP 202(FREQ. CHECK).
4. Adjust TC201 so that the counter becomes 34,952.5 ± 0.15 Hz.



Example :
1SS133
1SS119
1S2473

CD Adjustment Procedures



(1) PLL free-running adjustment

a. Measuring instrument
Frequency counter

b. Adjusting procedure
1. Connect a frequency counter with TP6 (CK) and TP1 (GND) on the main PC board.
2. Adjust R427 for setting the frequency counter's value becomes 4.295 ± 0.005MHz. (On the STOP MODE)
3. Perform this adjustment immediately after the power is turned on.

(2) Tracking offset adjustment

a. Measuring instruments
Oscilloscope, Normal disc

b. Adjusting procedure
1. Connect an oscilloscope with TP3 (TE) and TP1 (GND) on the main PC board.
2. Play the disc.
3. Short circuit TP5 (TEST) to TP1 (GND).
4. Adjust R509 for Zero DC offset of the tracking error waveform.

Note: The tracking error waveform should be symmetrical around the 0V level.

(3) Tracking gain adjustment

a. Measuring instruments
Oscilloscope, Normal disc

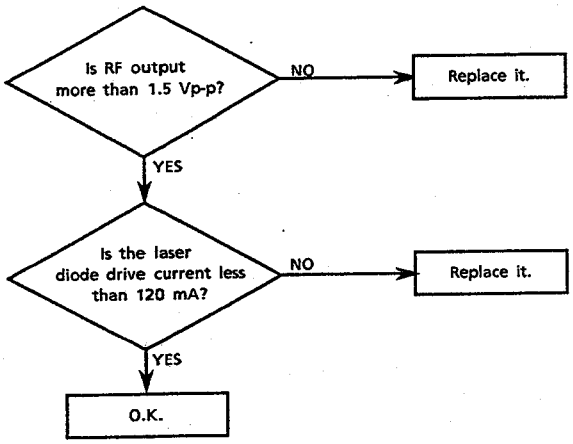
b. Adjusting procedure
1. Connect an oscilloscope with TP3 (TE) and TP1(GND) on the main PC board.
2. Play the disc.
3. Short circuit TP5 (TEST) to TP1 (GND).
4. Adjust R505 for 2.0 VP-P of tracking error signal.

Maintenance of Laser Pickup

(1) Life of the laser diode

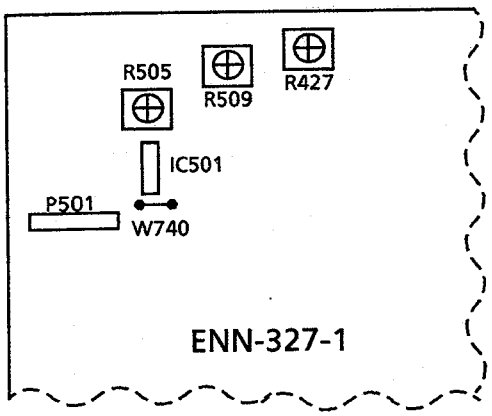
When the life of the laser diode has expired, the following symptoms will appear.

1. The level of RF output (EFM output: amplitude of eye pattern) will be low.
2. The drive current required by the laser diode will be increased.
   In such a case, check the life of the laser diode following the flowchart below



(2) Measurement of laser diode drive current

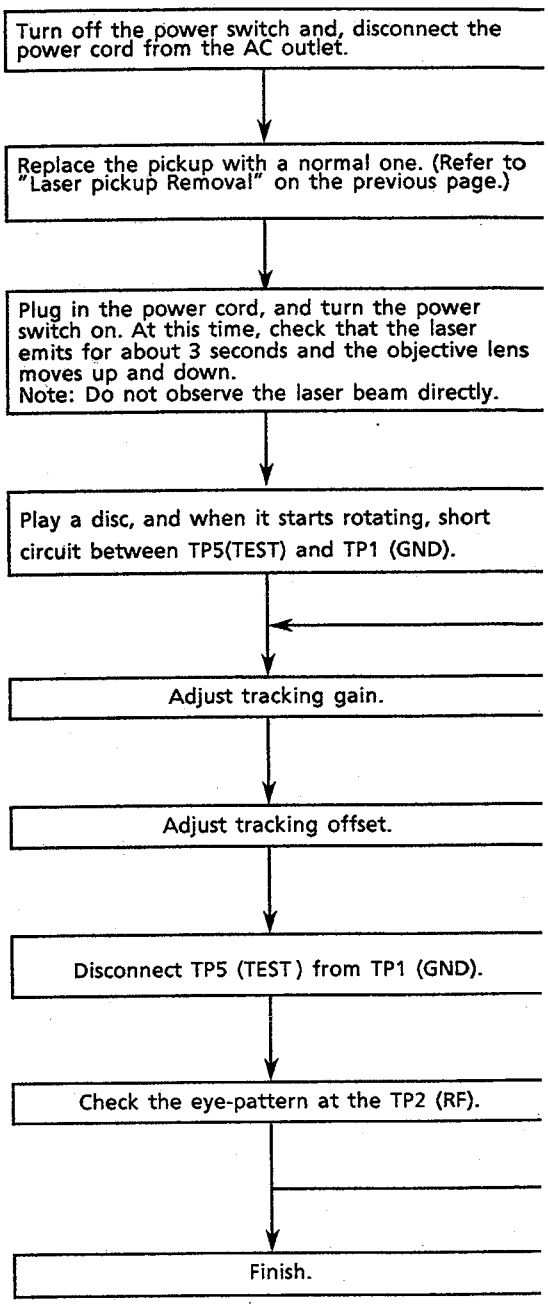
Replace the jump wire (W740) shown below with the resistor (1Ω).
Measure the voltage across the resistor with a milli-voltmeter. When the voltage is more than 120mV, it shows that the life of the laser diode has expired



(3) Semi-fixed resistor on the APC PC board

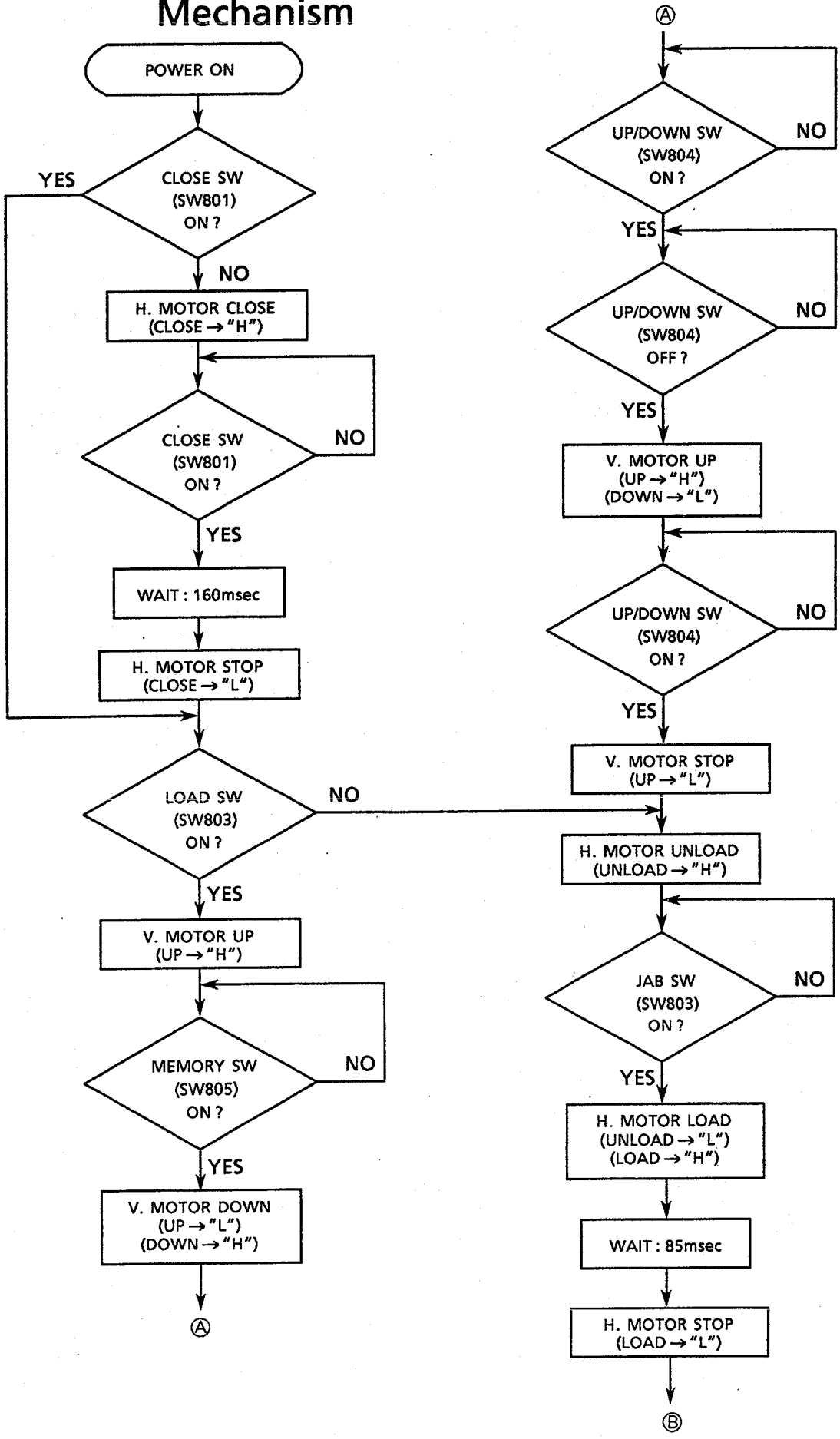
The semi-fixed resistor on the APC printed circuit board which is attached to the pickup is used to adjust the laser power. Since this adjustment should be performed to match the characteristics of the whole optical block, do not touch the semi-fixed resistor.
If the laser power is lower than the specified value, the laser diode is almost worn out, and the laser pickup should be replaced.
If the semi-fixed resistor is adjusted while the pickup is functioning normally, the laser pickup may be damaged due to excessive current.

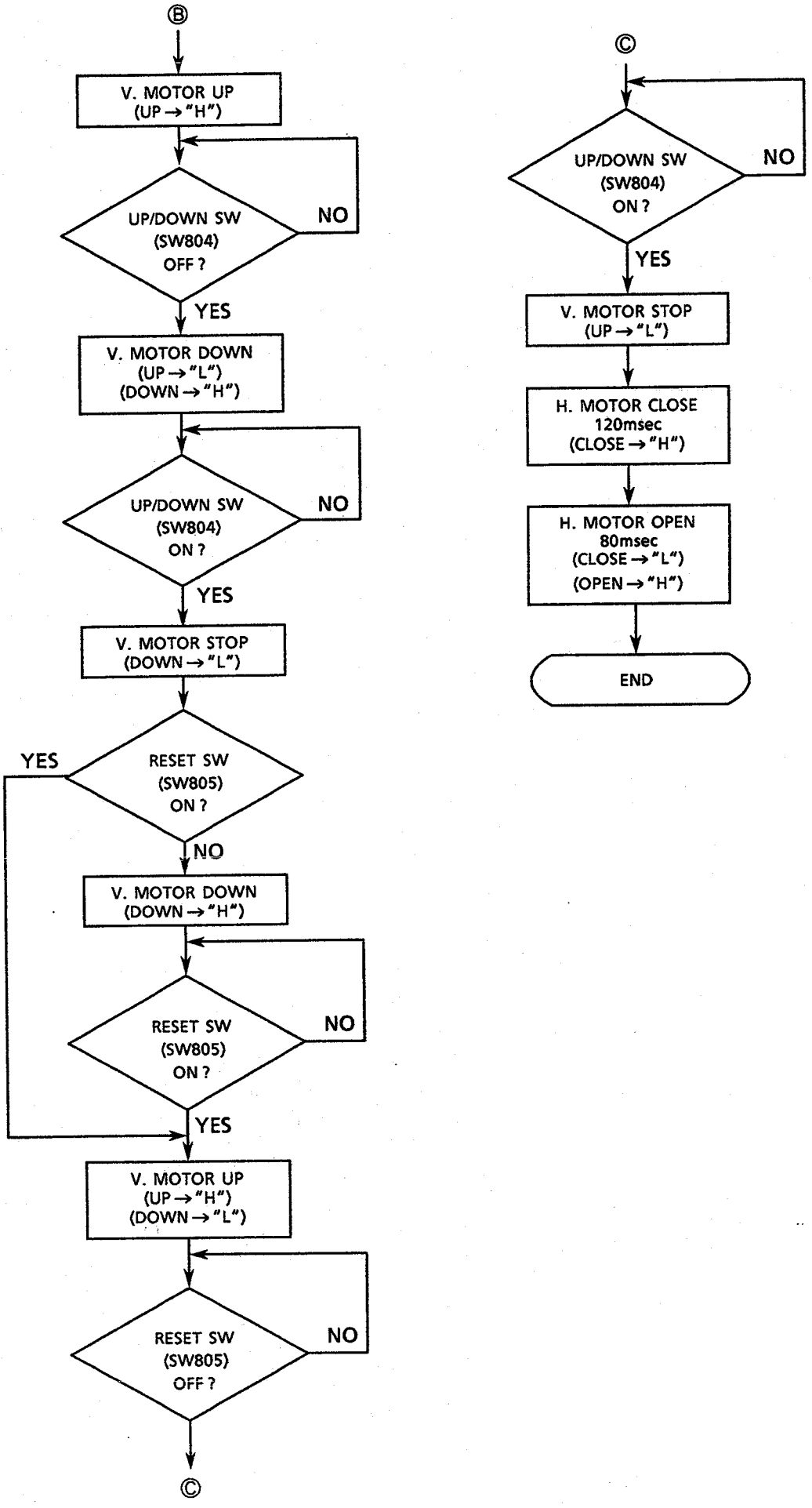
Replacement of Laser Pickup


Turn off the power switch and, disconnect the power cord from the AC outlet.
Replace the pickup with a normal one. (Refer to "Laser pickup Removal" on the previous page.)
Plug in the power cord, and turn the power switch on. At this time, check that the laser emits for about 3 seconds and the objective lens moves up and down.
Note: Do not observe the laser beam directly.
Play a disc, and when it starts rotating, short circuit between TP5(TEST) and TP1 (GND).
Adjust tracking gain.
Adjust tracking offset.
Disconnect TP5 (TEST) from TP1 (GND).
Check the eye-pattern at the TP2 (RF).
Finish.

Note: Since one adjustment may affect other settings, repeat these adjustments a few times.

Initial Operation of Mechanism




Ⓑ
V. MOTOR UP
(UP → "H")
UP/DOWN SW
(SW804)
OFF ?
NO
YES
V. MOTOR DOWN
(UP → "L")
(DOWN → "H")
UP/DOWN SW
(SW804)
ON ?
NO
YES
V. MOTOR STOP
(DOWN → "L")
RESET SW
(SW805)
ON ?
YES
NO
V. MOTOR DOWN
(DOWN → "H")
RESET SW
(SW805)
ON ?
NO
YES
V. MOTOR UP
(UP → "H")
(DOWN → "L")
RESET SW
(SW805)
OFF ?
NO
Ⓒ
Ⓒ
UP/DOWN SW
(SW804)
ON ?
NO
YES
V. MOTOR STOP
(UP → "L")
H. MOTOR CLOSE
120msec
(CLOSE → "H")
H. MOTOR OPEN
80msec
(CLOSE → "L")
(OPEN → "H")
END

Operation check by each switch.

SW801 : Single tray open / close detect switch.
When a single tray is ejected, the open signal is "L"and when it is closed, the close signal is "L"

SW802 : Magazine in switch.
When a magazine is inserted, the switch is turned on.

SW803 : JAB switch.
When drive plate comes toward, the switch is turned on. (The switch is turned on momentarily.)

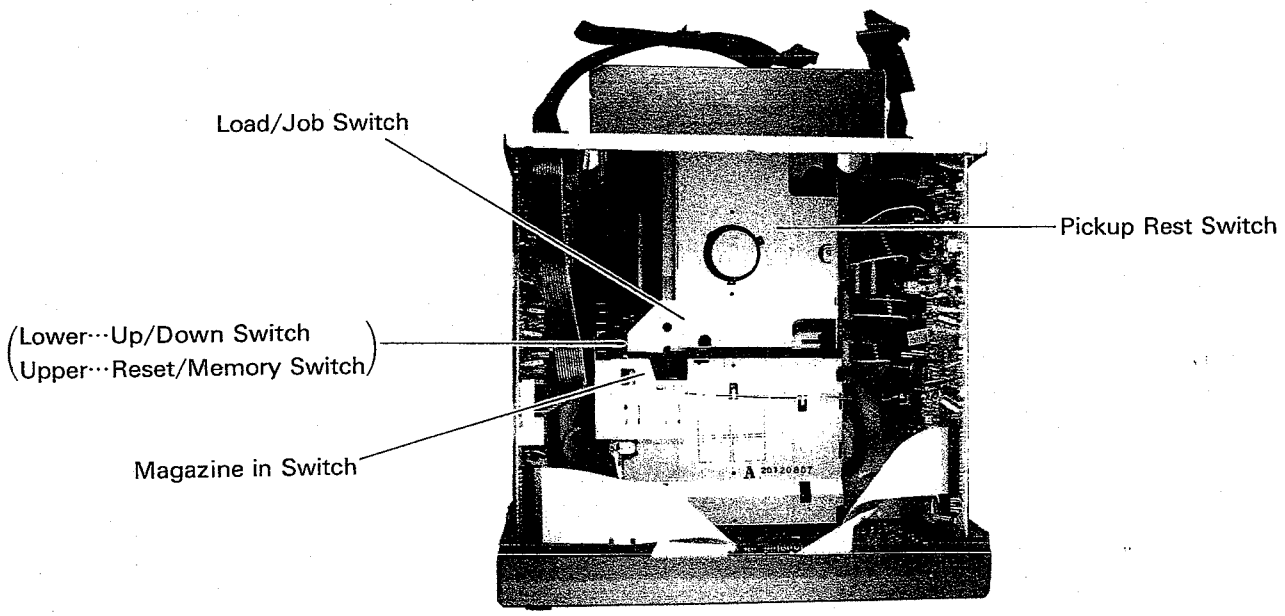
SW803 : Tray load switch.
When the tray of a disc is loaded, the switch is turned on.

SW804 : UP/DOWN switch.
When the mecmanism goes up or down, this sw turns on and off alternately.

SW805 : Reset switch.
When the mechanism comes to the point under the initial position,the switch is turned on.

SW805 : Memory switch.
When the power is off in playing a disc, and on again, the switch detect which height the tray should be returned.

SW807 : Pickup rest switch.
When pickup comes to the initial position, the switch is turned on.



Flow of Functional Operation Until TOC is Read

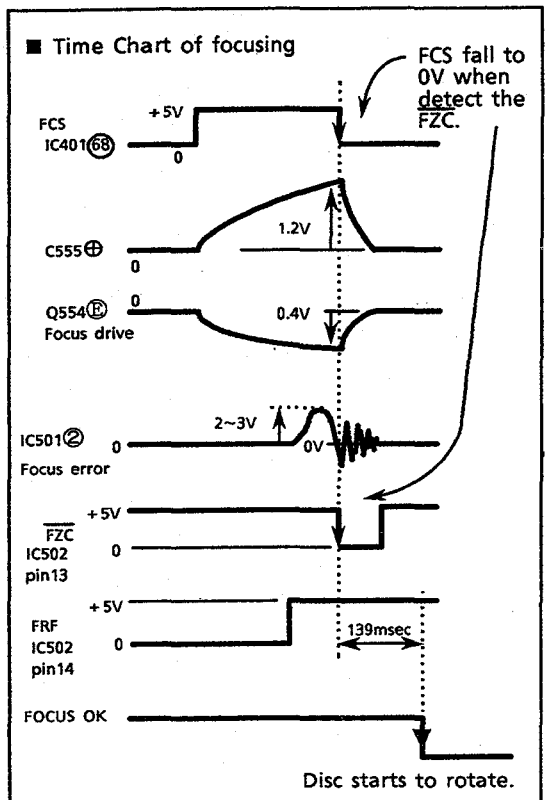


Fig-1

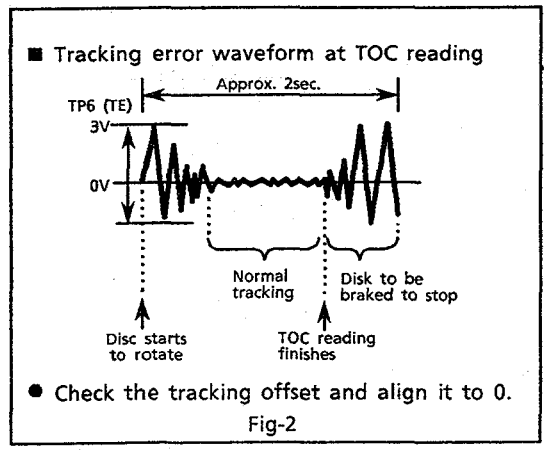
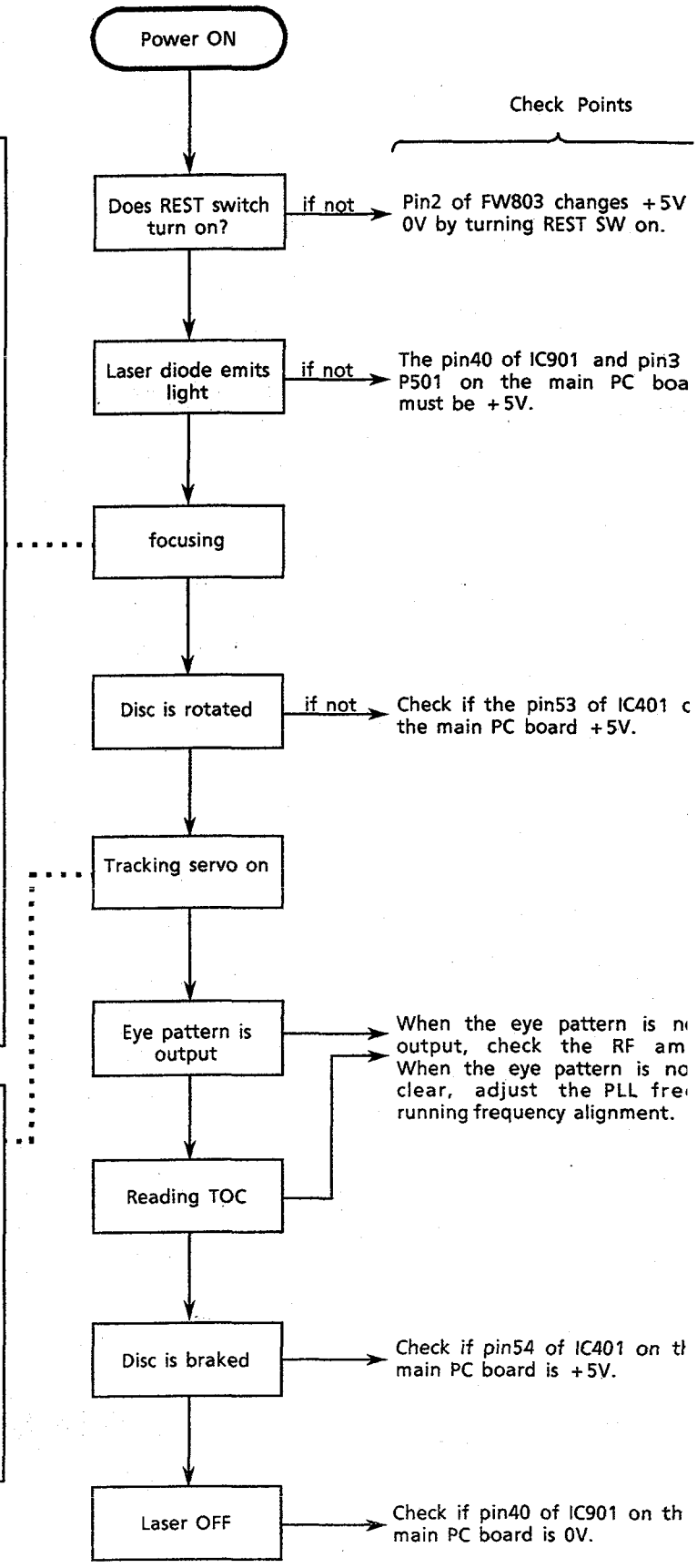
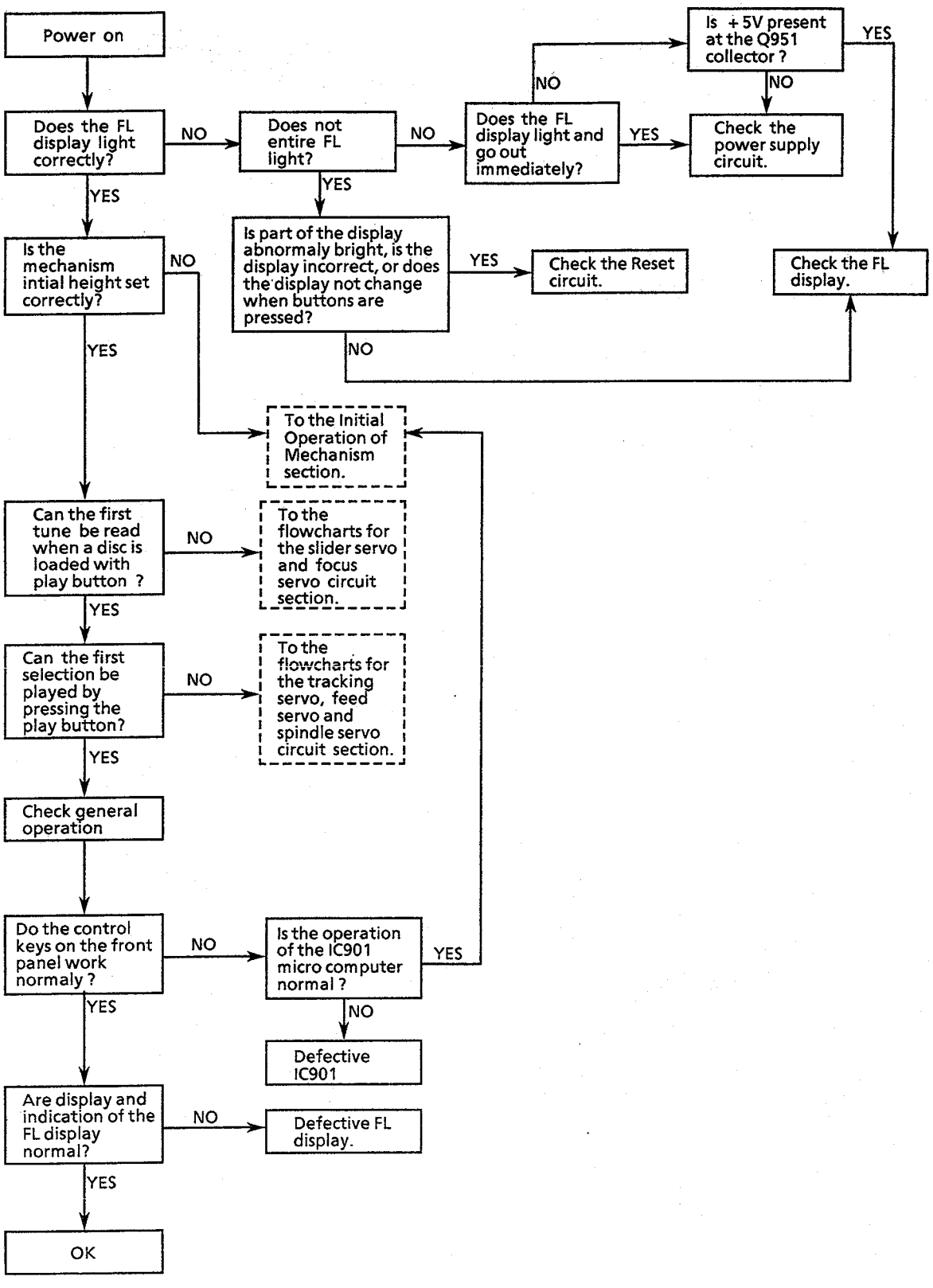


Fig-2

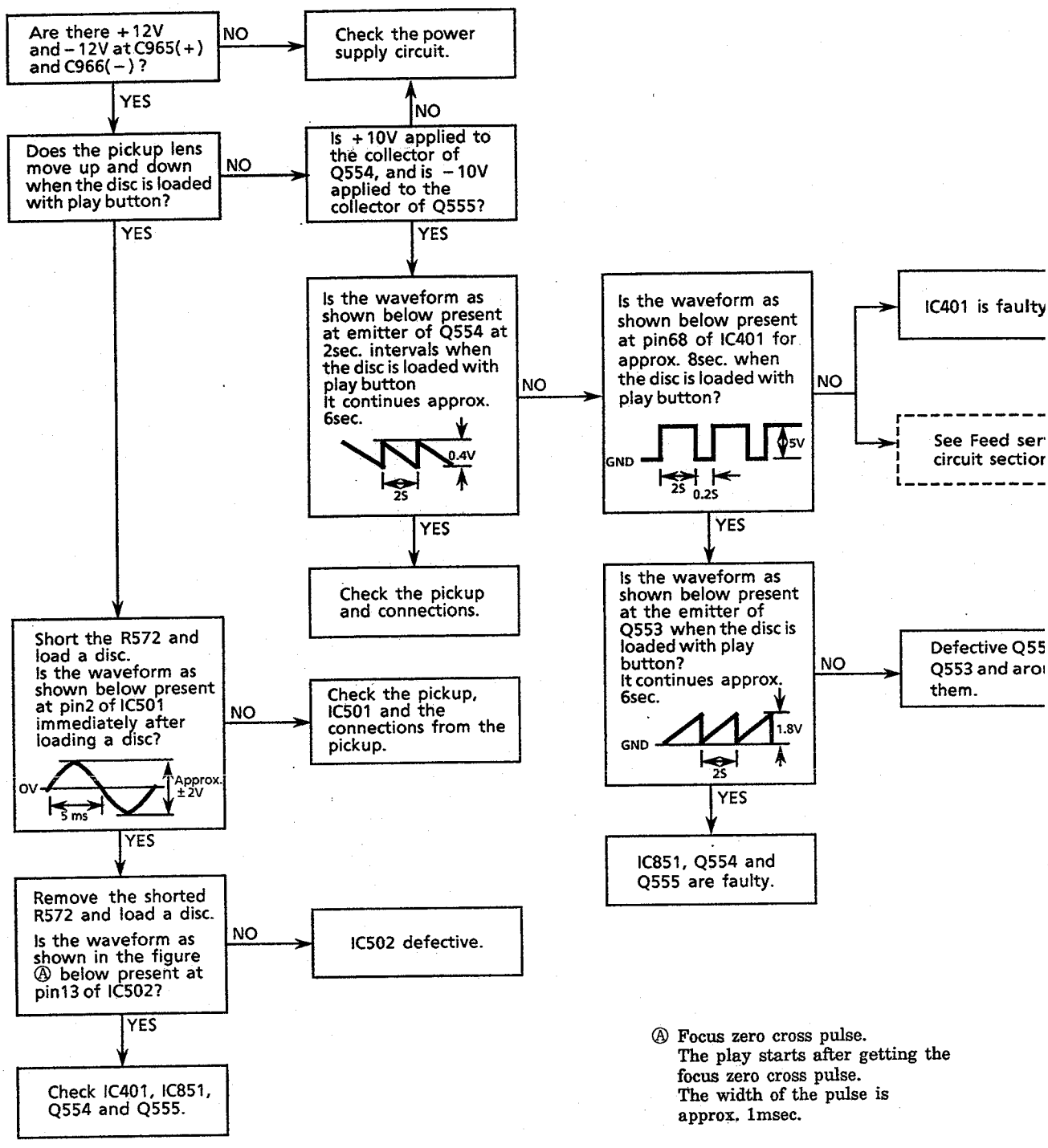

Power ON
Check Points
Does REST switch turn on?
if not
Pin2 of FW803 changes +5V 0V by turning REST SW on.
Laser diode emits light
if not
The pin40 of IC901 and pin3 P501 on the main PC boa must be +5V.
focusing
Disc is rotated
if not
Check if the pin53 of IC401 c the main PC board +5V.
Tracking servo on
Eye pattern is output
When the eye pattern is n output, check the RF am
When the eye pattern is no clear, adjust the PLL fre running frequency alignment.
Reading TOC
Disc is braked
Check if pin54 of IC401 on th main PC board is +5V.
Laser OFF
Check if pin40 of IC901 on th main PC board is 0V.

Troubleshooting

The following flowchart shows each circuit's condition about from "power on" until "ready to play".

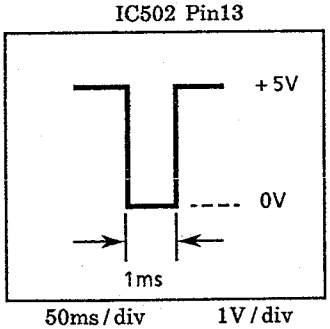

Power on
Does the FL display light correctly?
NO
Does not entire FL light?
NO
Does the FL display light and go out immediately?
YES
Check the power supply circuit.
NO
Is +5V present at the Q951 collector?
YES
NO
YES
YES
Is part of the display abnormaly bright, is the display incorrect, or does the display not change when buttons are pressed?
YES
Check the Reset circuit.
Check the FL display.
NO
Is the mechanism intial height set correctly?
NO
YES
To the Initial Operation of Mechanism section.
Can the first tune be read when a disc is loaded with play button ?
NO
To the flowcharts for the slider servo and focus servo circuit section.
YES
Can the first selection be played by pressing the play button?
NO
To the flowcharts for the tracking servo, feed servo and spindle servo circuit section.
YES
Check general operation
Do the control keys on the front panel work normaly ?
NO
Is the operation of the IC901 micro computer normal ?
YES
NO
Defective IC901
YES
Are display and indication of the FL display normal?
NO
Defective FL display.
YES
OK

Focus servo circuit section

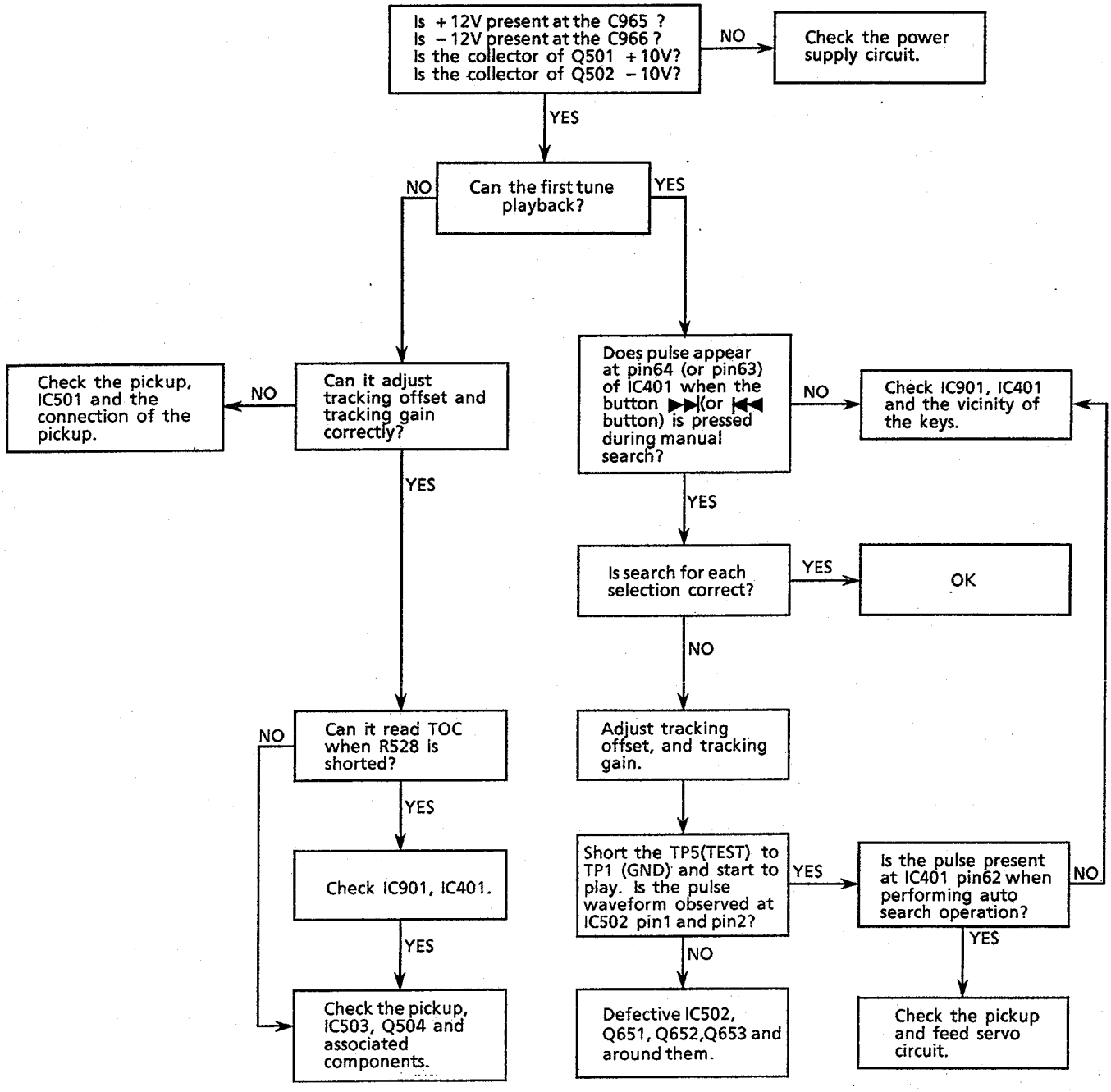

Are there +12V and −12V at C965(+) and C966(−)?
NO
Check the power supply circuit.
YES
NO
Does the pickup lens move up and down when the disc is loaded with play button?
NO
Is +10V applied to the collector of Q554, and is −10V applied to the collector of Q555?
YES
YES
Is the waveform as shown below present at emitter of Q554 at 2sec. intervals when the disc is loaded with play button
It continues approx. 6sec.
0.4V
2S
NO
Is the waveform as shown below present at pin68 of IC401 for approx. 8sec. when the disc is loaded with play button?
GND
5V
2S
0.2S
NO
IC401 is faulty
See Feed ser circuit sectior
YES
YES
Check the pickup and connections.
Is the waveform as shown below present at the emitter of Q553 when the disc is loaded with play button?
It continues approx. 6sec.
GND
1.8V
2S
NO
Defective Q55 Q553 and aro them.
YES
IC851, Q554 and Q555 are faulty.
Short the R572 and load a disc.
Is the waveform as shown below present at pin2 of IC501 immediately after loading a disc?
OV
Approx. ±2V
5 ms
NO
Check the pickup, IC501 and the connections from the pickup.
YES
Remove the shorted R572 and load a disc.
Is the waveform as shown in the figure Ⓐ below present at pin13 of IC502?
NO
IC502 defective.
YES
Check IC401, IC851, Q554 and Q555.

Ⓐ Focus zero cross pulse.
The play starts after getting the focus zero cross pulse.
The width of the pulse is approx. 1msec.

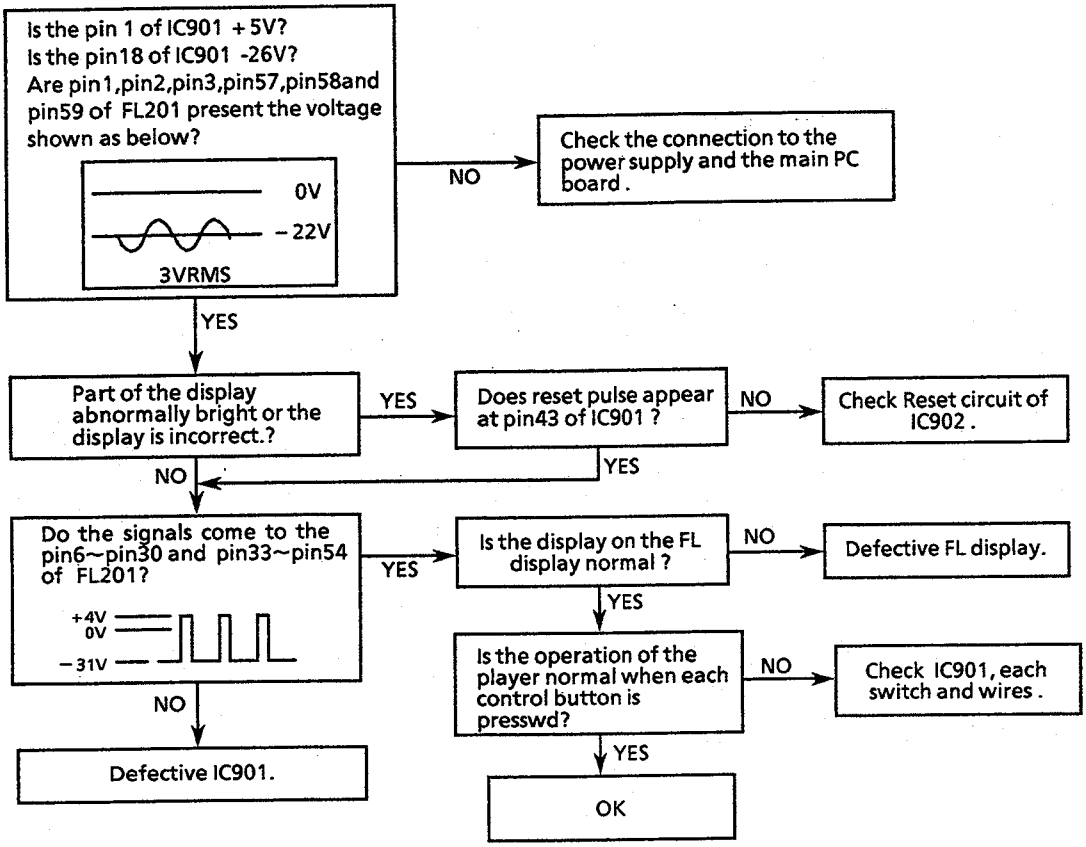
IC502 Pin13



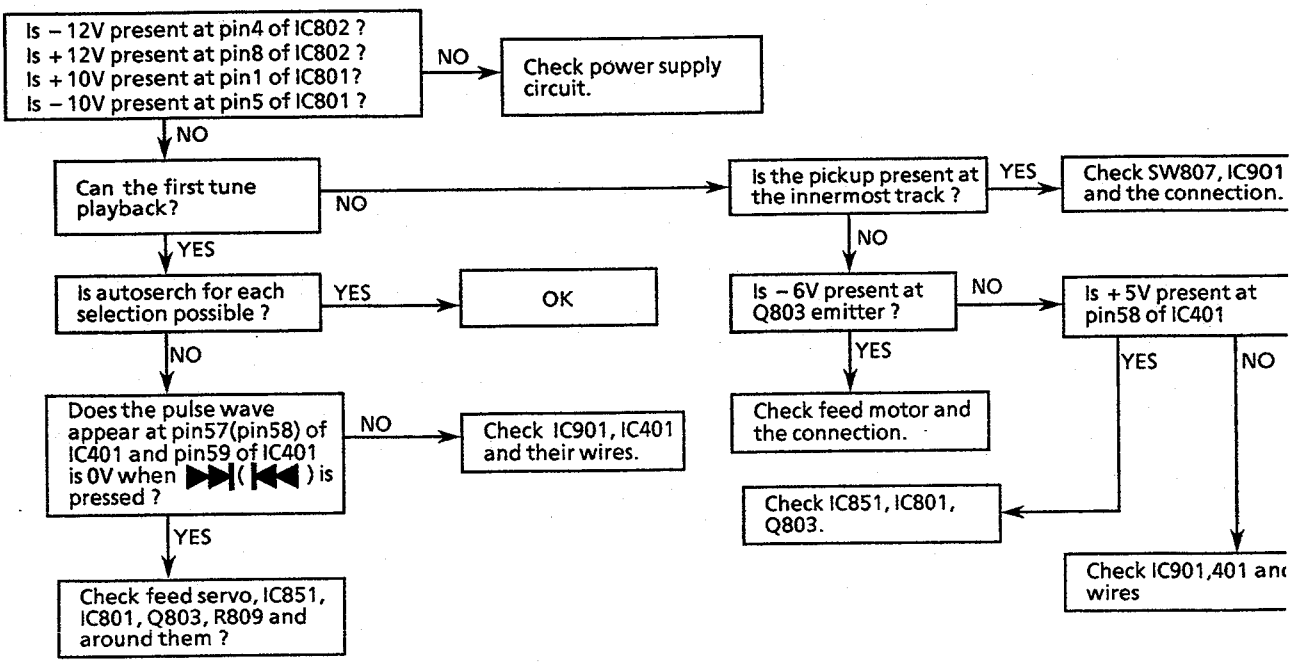
Tracking servo circuit section


Is +12V present at the C965 ?
Is −12V present at the C966 ?
Is the collector of Q501 +10V?
Is the collector of Q502 −10V?
NO
Check the power supply circuit.
YES
NO
Can the first tune playback?
YES
Check the pickup, IC501 and the connection of the pickup.
NO
Can it adjust tracking offset and tracking gain correctly?
YES
Does pulse appear at pin64 (or pin63) of IC401 when the button ▶▶| (or |◀◀ button) is pressed during manual search?
NO
Check IC901, IC401 and the vicinity of the keys.
YES
Is search for each selection correct?
YES
OK
NO
NO
Can it read TOC when R528 is shorted?
YES
Check IC901, IC401.
YES
Check the pickup, IC503, Q504 and associated components.
Adjust tracking offset, and tracking gain.
Short the TP5(TEST) to TP1 (GND) and start to play. Is the pulse waveform observed at IC502 pin1 and pin2?
YES
NO
Defective IC502, Q651, Q652,Q653 and around them.
Is the pulse present at IC401 pin62 when performing auto search operation?
NO
YES
Check the pickup and feed servo circuit.

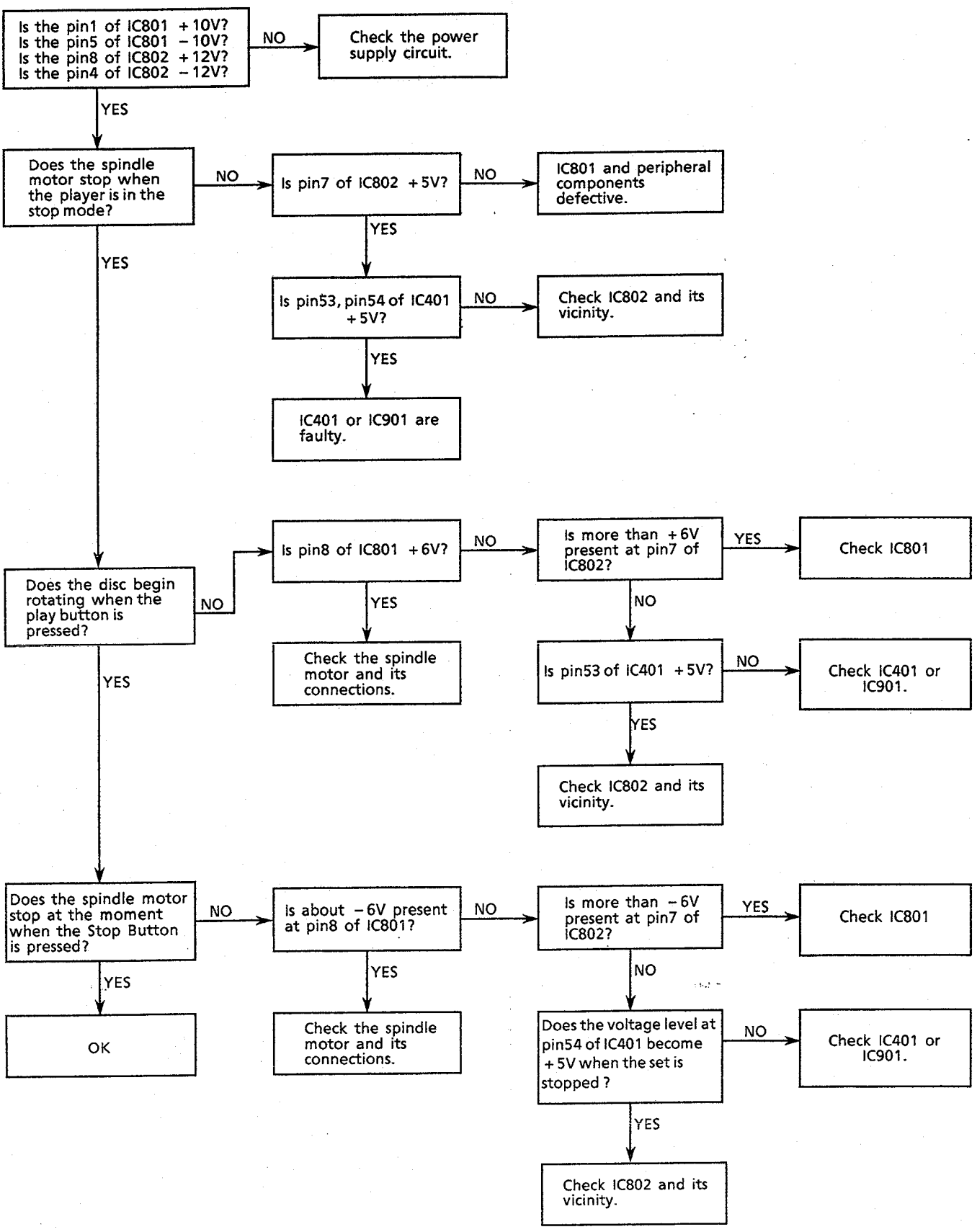
Front circuit Section


Is the pin 1 of IC901 +5V?
Is the pin18 of IC901 -26V?
Are pin1,pin2,pin3,pin57,pin58and pin59 of FL201 present the voltage shown as below?
0V
-22V
3VRMS
NO
Check the connection to the power supply and the main PC board .
YES
Part of the display abnormally bright or the display is incorrect.?
YES
Does reset pulse appear at pin43 of IC901 ?
NO
Check Reset circuit of IC902 .
YES
NO
Do the signals come to the pin6~pin30 and pin33~pin54 of FL201?
+4V
0V
-31V
YES
Is the display on the FL display normal ?
NO
Defective FL display.
YES
Is the operation of the player normal when each control button is presswd?
NO
Check IC901, each switch and wires .
YES
NO
Defective IC901.
OK

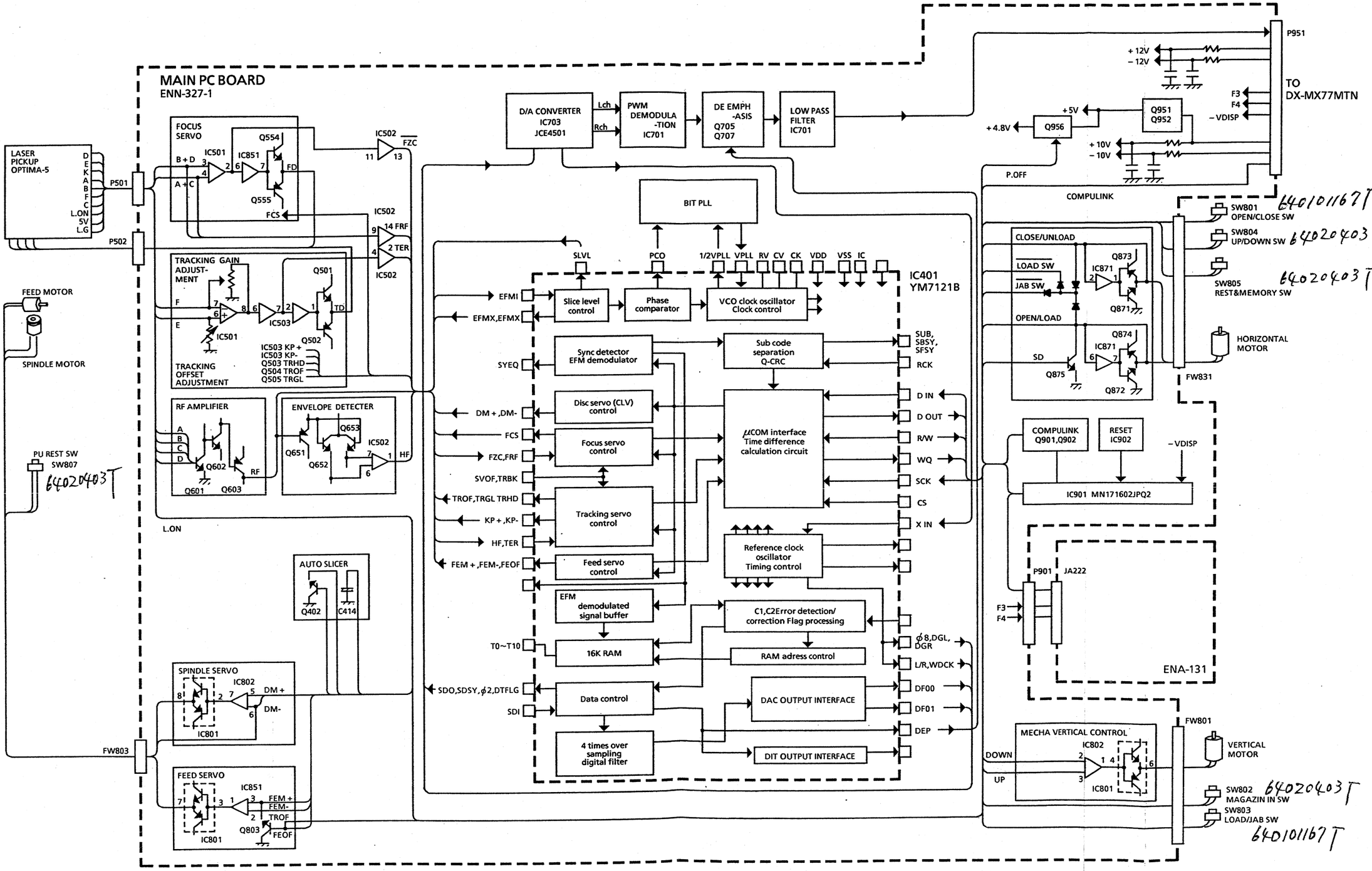
Feed servo circuit section


Is -12V present at pin4 of IC802 ?
Is +12V present at pin8 of IC802 ?
Is +10V present at pin1 of IC801?
Is -10V present at pin5 of IC801 ?
NO
Check power supply circuit.
NO
Can the first tune playback?
NO
Is the pickup present at the innermost track ?
YES
Check SW807, IC901 and the connection.
YES
NO
Is autoserch for each selection possible ?
YES
OK
Is -6V present at Q803 emitter ?
NO
Is +5V present at pin58 of IC401
NO
YES
YES
NO
Does the pulse wave appear at pin57(pin58) of IC401 and pin59 of IC401 is 0V when ▶▶| (|◀◀) is pressed ?
NO
Check IC901, IC401 and their wires.
Check feed motor and the connection.
YES
Check IC851, IC801, Q803.
Check IC901,401 and wires
YES
Check feed servo, IC851, IC801, Q803, R809 and around them ?

Spindle servo circuit section


Is the pin1 of IC801 +10V?
Is the pin5 of IC801 −10V?
Is the pin8 of IC802 +12V?
Is the pin4 of IC802 −12V?
NO
Check the power supply circuit.
YES
Does the spindle motor stop when the player is in the stop mode?
NO
Is pin7 of IC802 +5V?
NO
IC801 and peripheral components defective.
YES
YES
Is pin53, pin54 of IC401 +5V?
NO
Check IC802 and its vicinity.
YES
IC401 or IC901 are faulty.
Does the disc begin rotating when the play button is pressed?
NO
Is pin8 of IC801 +6V?
NO
Is more than +6V present at pin7 of IC802?
YES
Check IC801
YES
NO
Check the spindle motor and its connections.
Is pin53 of IC401 +5V?
NO
Check IC401 or IC901.
YES
Check IC802 and its vicinity.
YES
Does the spindle motor stop at the moment when the Stop Button is pressed?
NO
Is about −6V present at pin8 of IC801?
NO
Is more than −6V present at pin7 of IC802?
YES
Check IC801
YES
NO
YES
OK
Check the spindle motor and its connections.
Does the voltage level at pin54 of IC401 become +5V when the set is stopped ?
NO
Check IC401 or IC901.
YES
Check IC802 and its vicinity.

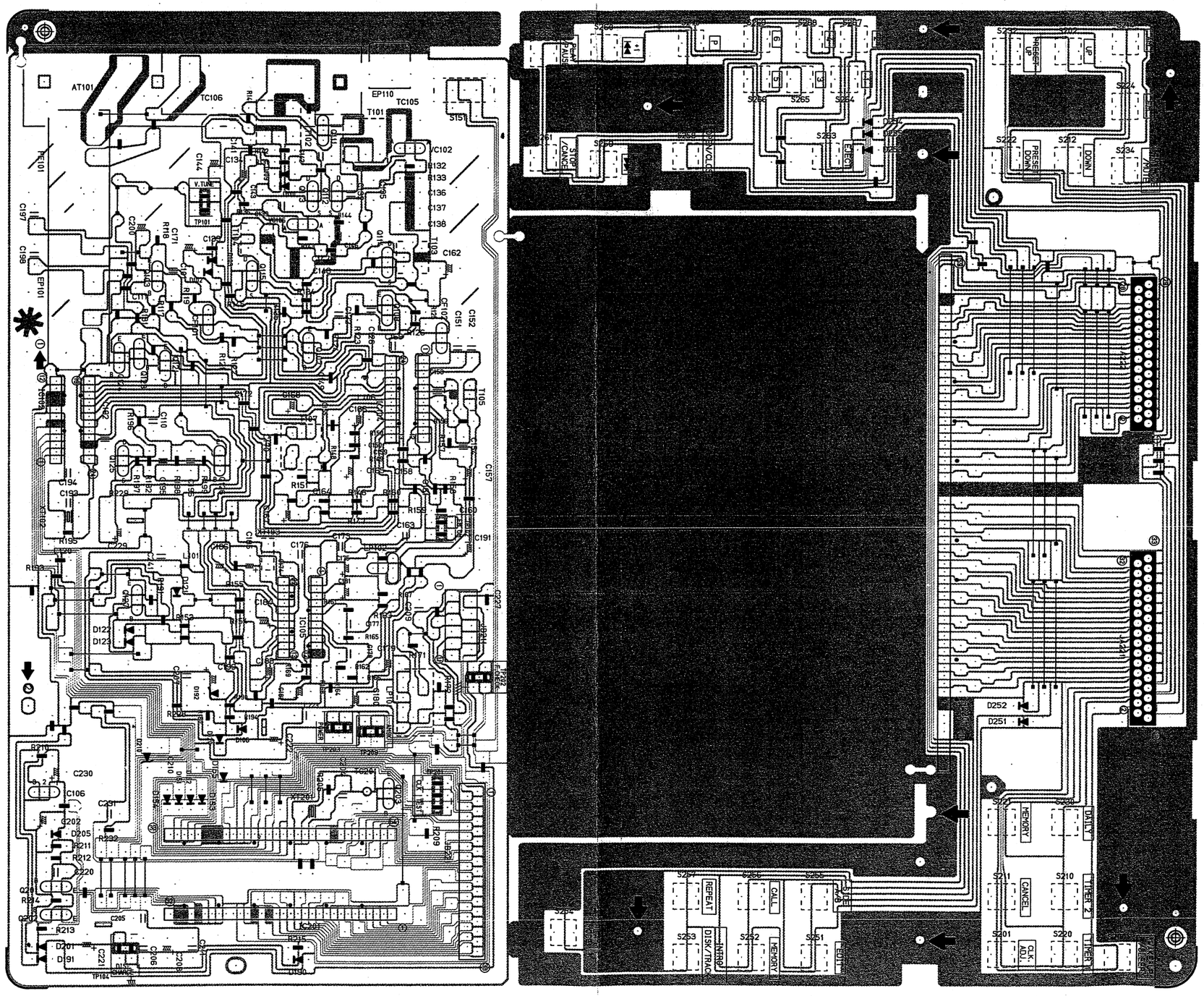
Connection Diagram



(No.20336)

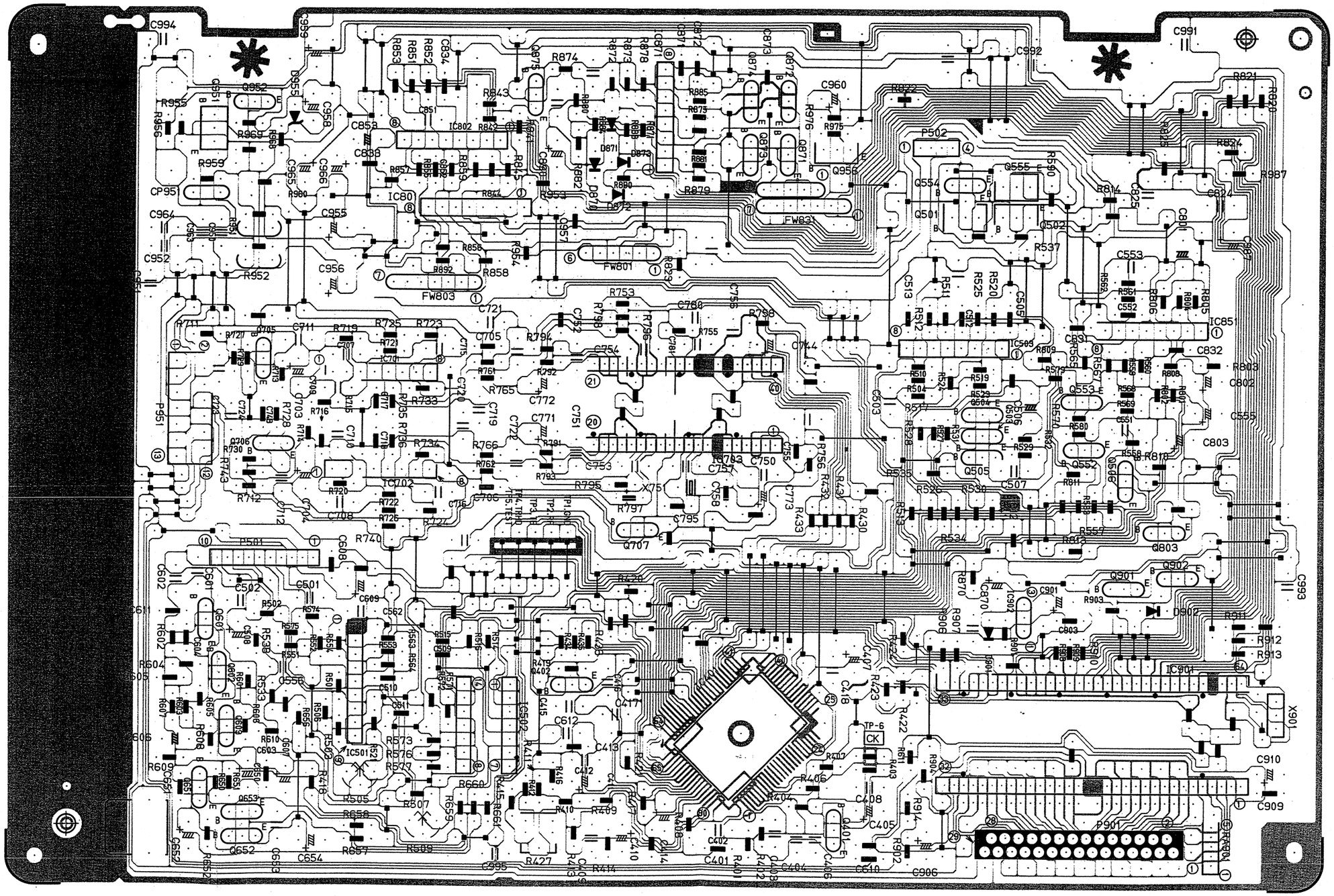
Printed Circuit Board

■ Tuner PC Board (ENA-131)



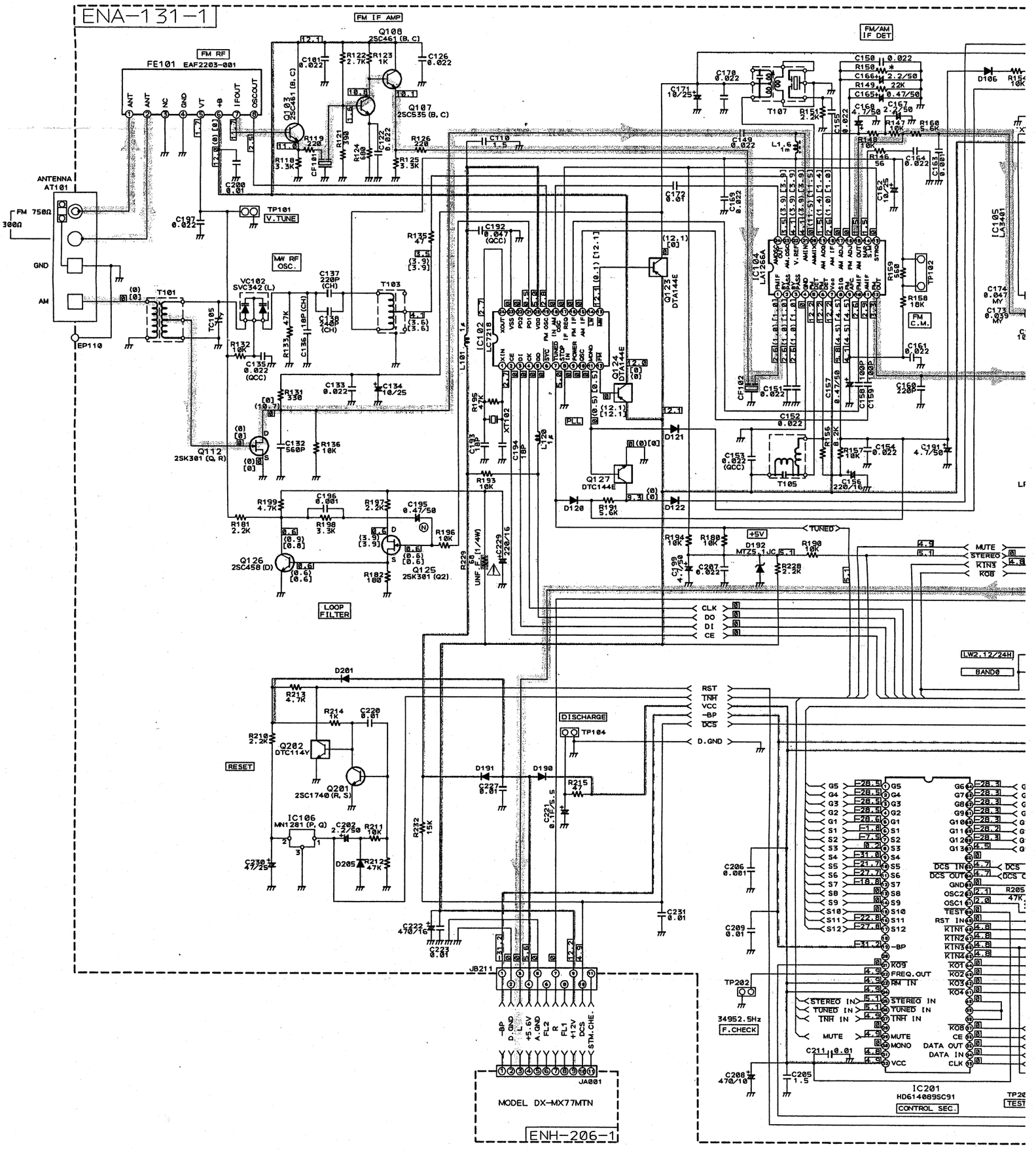
(No.20336)

■ CD PC Board (ENN-327)



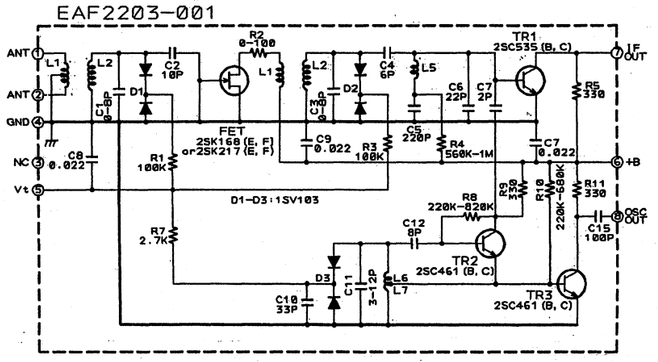
(No.20336) (No.20336)

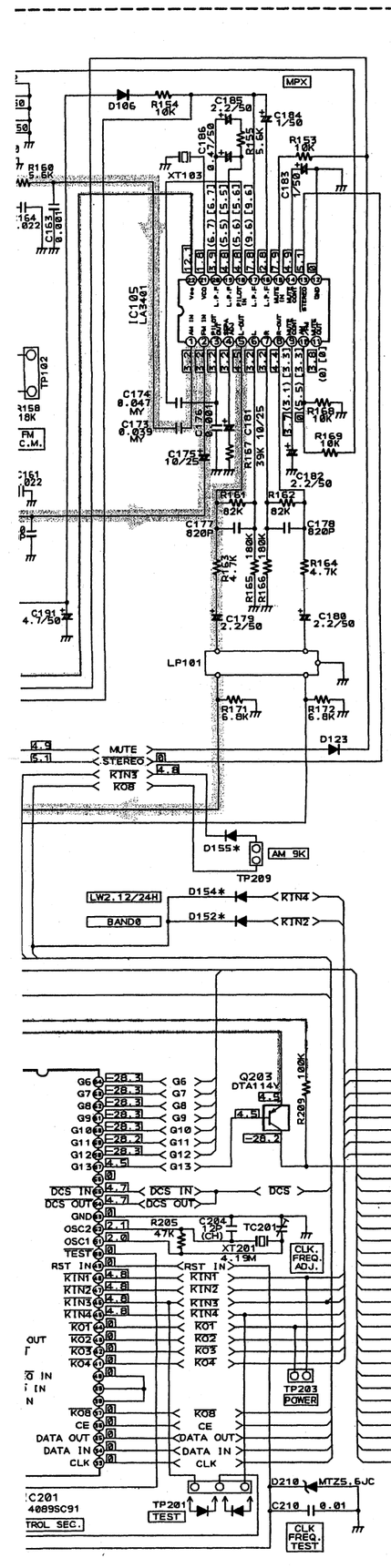
■ Tuner Section



NO MARK DIODES ARE 1SS133
▭ FM AUTO NO SIGNAL (87.5MH)
( ) MW NO SIGNAL (522KHz)

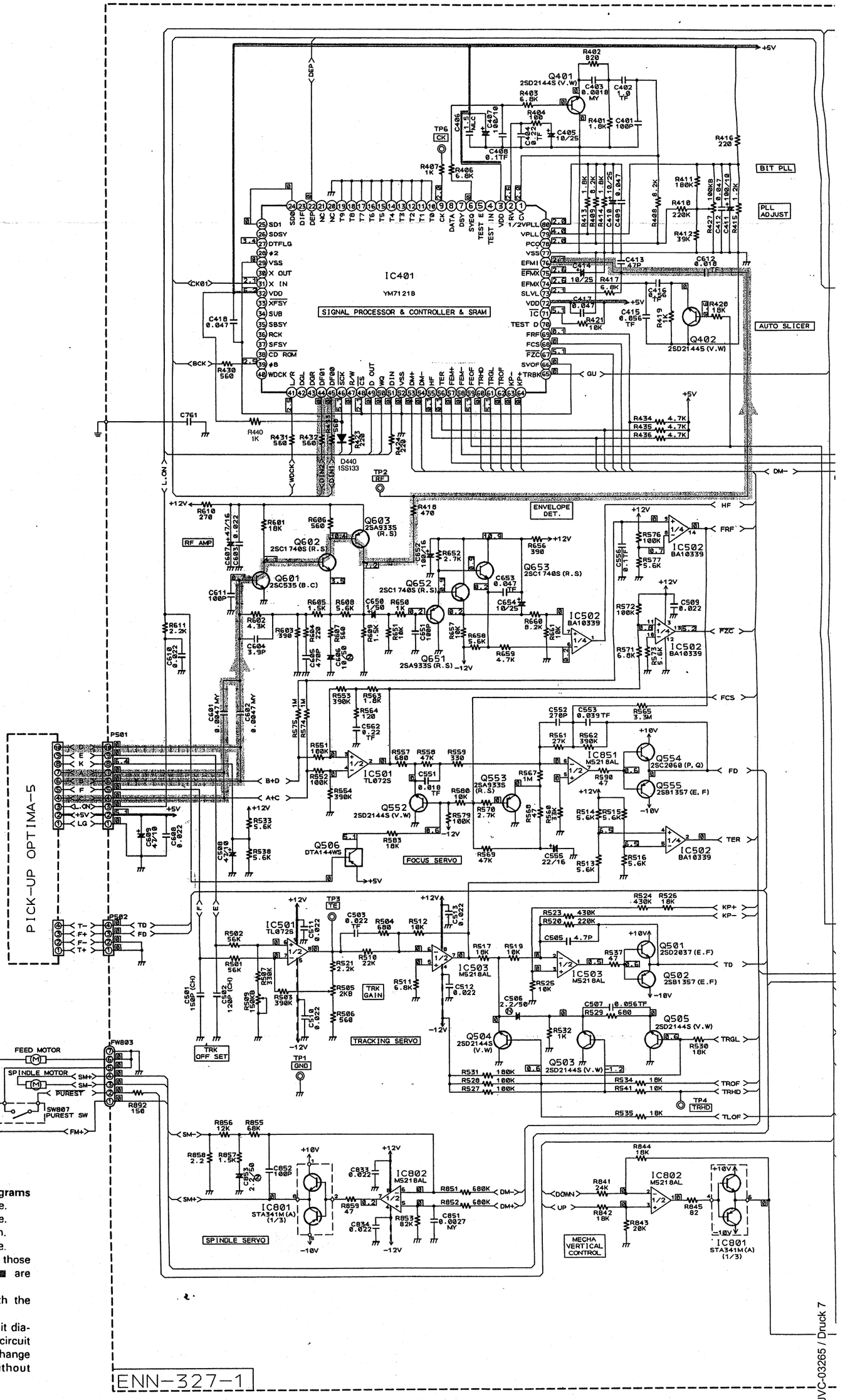
EAF2203-001





SCHEMATIC DIAGRAM

■ CD Section

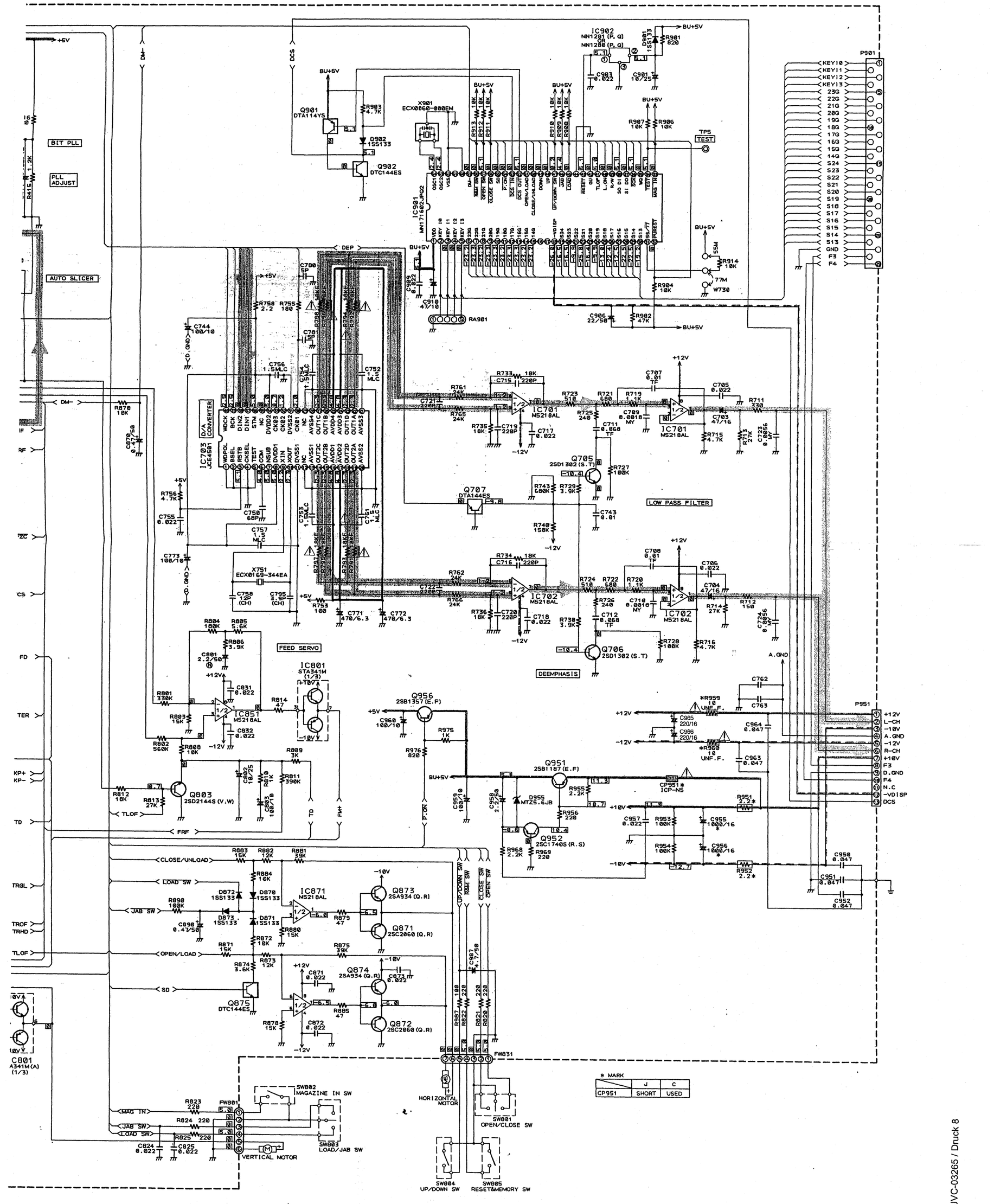


How to Use Schematic Diagrams

1. —— indicates the +B line.
2. - - - - indicates the −B line.
3. ▒▒▒ indicates signal path.
4. ▭ indicates voltage value.
5. Parts marked with ⚠ and those in the shaded area ▬ are parts for safety.
   Be sure to use one with the specified part number.
6. This is the standard circuit diagram. The circuits and circuit constants are subject to change for improvement without notice.

ENN-327-1

JVC-03265 / Druck 7


BIT PLL
PLL ADJUST
AUTO SLICER
D/A CONVERTER
IC7703 JCE4581
IC901 MN171602-JPQ2
IC902 MN1281 (P, Q) MN1286 (P, Q)
X901 ECX0860-800EM
X751 ECX0169-344EA
Q901 DTA114YS
Q902 DTC144ES
RA901
IC701 M5218AL
IC702 M5218AL
IC851 M5218AL
IC871 M5218AL
IC801 STA341M (1/3)
Q705 2SD1302 (S.T)
Q706 2SD1302 (S.T)
Q707 DTA144ES
Q803 2SD2144S (V.W)
Q875 DTC144ES
Q874 2SA934 (Q.R)
Q873 2SA934 (Q.R)
Q872 2SC2060 (Q.R)
Q871 2SC2060 (Q.R)
Q956 2SB1357 (E.F)
Q951 2SB1187 (E.F)
Q952 2SC1740S (R.S)
D955 MTZ5.6JB
LOW PASS FILTER
DEEMPHASIS
FEED SERVO
TPS
TEST
P901
P951
FW801
FW831
SW801 OPEN/CLOSE SW
SW802 MAGAZINE IN SW
SW803 LOAD/JAB SW
SW804 UP/DOWN SW
SW805 RESET&MEMORY SW
HORIZONTAL MOTOR
VERTICAL MOTOR
* MARK
CP951 | J SHORT | C USED
JVC-03265 / Druck 8

PARTS LIST

Contents

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CD Changer Ass'y and Parts List 2-
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Printed Circuit Board Ass'y and Parts List 2-
■ ENN-327☐ CD PC Board Ass'y 2-
■ ENA-131Ⓐ Tuner PC Board Ass'y 2-

General Exploded View and Parts List

■ Parts List

⚠	Item	Part Number	Part Name	Q'ty	Description	Areas
	1	EFP-XTMX77MTNJS	Front Panel Ass'y	1		J
		EFP-XTMX77MTNCS	Front Panel Ass'y	1		C
	1-1	E102557-001	Front Panel	1		
	1-2	E307973-001	Lid	1		
	1-3	E307975-001	Tuner Window Screen	1		J
		E307975-002	Tuner Window Screen	1		C
	1-4	E72405-001	Special Screw	2		
	1-5	E73534-001	Spring	1		
	1-6	E75130-007	FL Screen	1		J
	1-7	E406971-001	JVC Mark	2		
	2	E406855-006	Spacer	2	Front Foot	
	3	E207411-001	Push Button	1	CD EDIT	
	4	E307987-001	Push Button	1	TIMER	
	5	E207420-001	Push Button	1	CD FF	
	6	E207409-001	Push Button	1	CD DISK	
	7	E307958-221	Push Button	1	TUNING	
	8	E307925-221	Push Button	1	PRESET	
	9	EWR133K-17TT	Flat Wire	1	FC221 (33PIN)	
	10	EWR129K-15TT	Flat Wire	1	FC222 (29PIN)	
	11	SDSF2610Z	Screw	8		
	12	SDSG3006M	Screw	5		
	13	E207399-004	Metal Cover	1		
	14	E67000-018	Caution Label	1		
	15	SBSG3008CC	Screw	14		
	16	E102564-001	Chassis Base	1		
	17	E406855-007	Spacer	2	Rear Foot	
	18	E307992-001	Fitting	1		
	19	———	CD Changer Mechanism Unit Ass'y	1	See page 2-5	
	20	E406507-001	Caution Label	1		C
	21	GBSG3008Z	Screw	2		
	22	E306805-065	Spacer	1		
	23	E307977-001	Bracket	1		
	24	SBST3004CC	Screw	3		
	25	E207413-001	Rear Cover	1		
	26	E207402-001	Rear Panel	1		J
		E207402-002	Rear Panel	1		C
	27	EWP907-010	Flat Wire Ass'y	1	for CD	
	28	EWP907-011	Flat Wire Ass'y	1	for Tuner	
	29	EXO015008H05S11	Spacer	6		
	—	E61029-009	Number Label	1		

⚠ Safety Parts

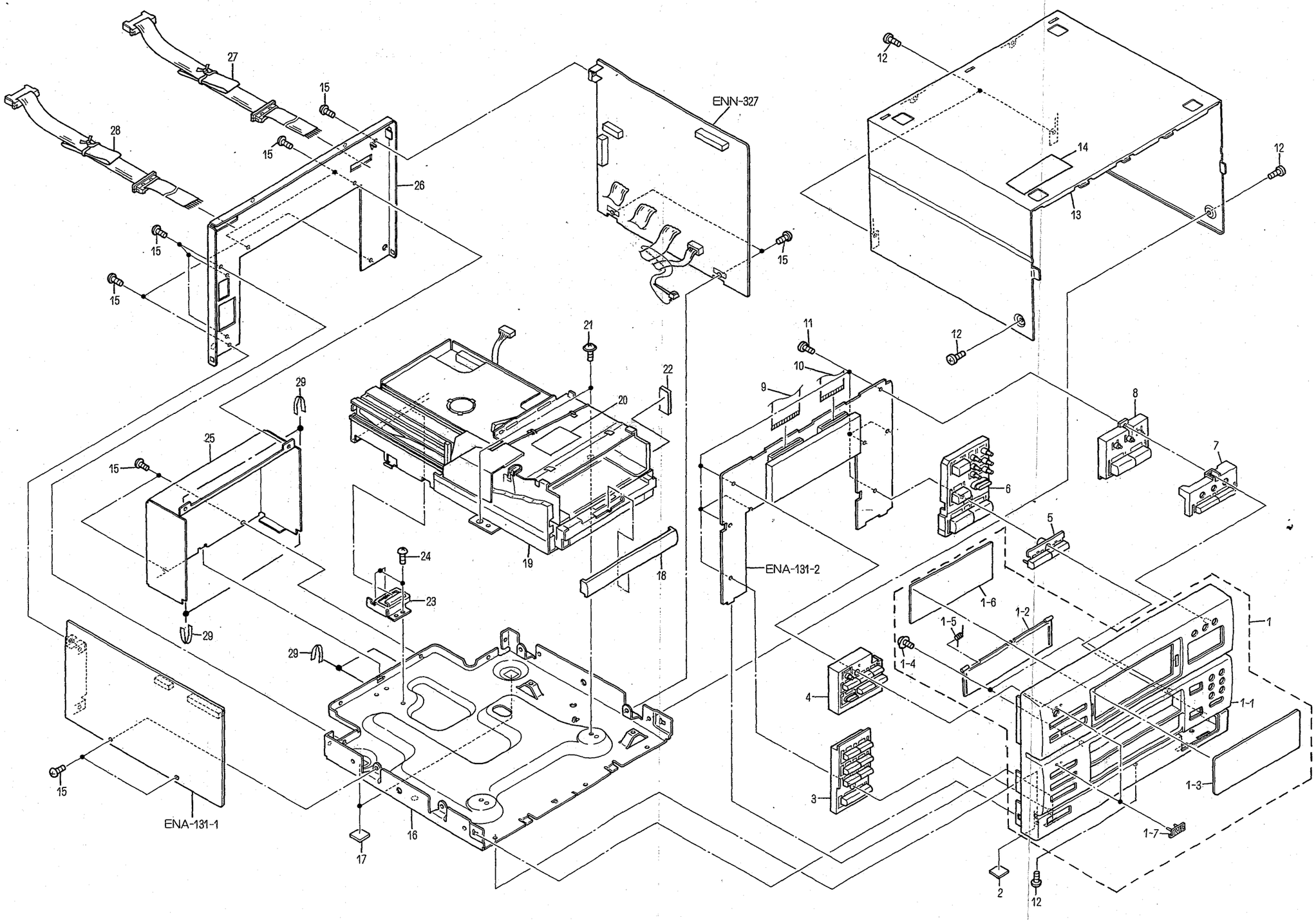
The Marks for Designated Areas

J·····the U.S.A.

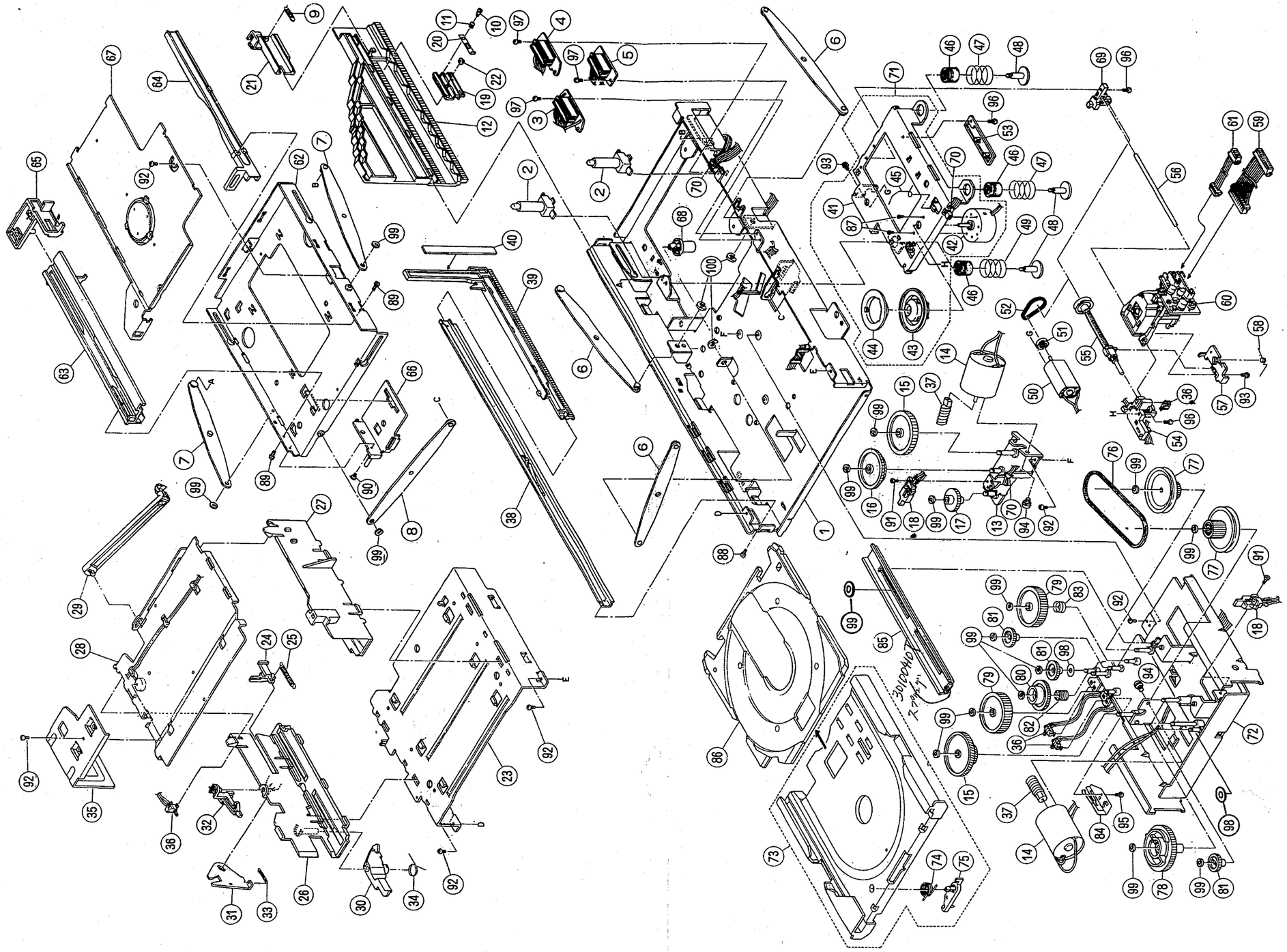
C·····Canada

No marks indicates all areas.

■ Exploded View



CD Changer Ass'y and Parts List



2-5 (No.20336)

2-6 (No.20336)

■ Parts List (CD Changer Ass'y)

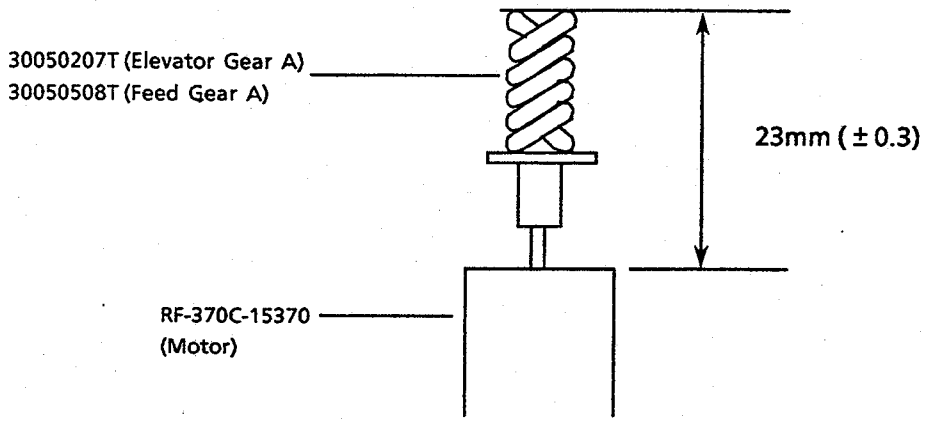
Item	Part Number	Part Name	Q'ty	Description	Areas
1	30100101T	Chassis Base	1		
2	30050115T	Guide Boss	2		
3	300501302T	Connector PC Board A Ass'y	1		
4	301001301T	Connector PC Board D Ass'y	1		
5	300501304T	Connector PC Board P Ass'y	1		
6	301002502T	Elevator Arm A Ass'y	3		
7	301002503T	Elevator Side Arm B Ass'y	2		
8	301002504T	Elevator Front Arm A Ass'y	1		
9	30100221T	Cam Lever Spring	1		
10	30100222T	Collar Screw	1		
11	30100223T	Cam Spring	1		
12	30100202T	Lift Cam	1		
13	301002501T	Elevator Motor Bracket Ass'y	1		
14	RF-370C-15370	Loading Motor	2		
15	30100210T	Elevator Gear B	2		
16	30100~~212T~~ 211T	Elevator Gear C	1		
17	30100~~213T~~ 212T	Elevator Gear D	1		
18	640101167T	Leaf Switch	1		
19	30100204T	Cam Slider	1		
20	30100205T	Cam Spring Plate	1		
21	30100206T	Cam Lever	1		
22	30100207T	Cam Roller	1		
23	30100301T	Guide Base	1		
24	30100311T	Elevator Slide Lever	1		
25	30100312T	Elevator Slide Lever Spring	1		
26	301003703T	Magazine Guide	1	Left	
27	30050303T	Magazine Guide	1	Right	
28	30100305T	Guide Cover	1		
29	30050309T	Tray Stopper	1		
30	30100310T	Open Lever	1		
31	30100308T	Elevator Kick Lever	1		
32	30100307T	Lock Lever	1		
33	30100309T	Elevator Kick Lever Spring	1		
34	30100313T	Open Lever Spring	1		
35	301003706T	Cam Stabilizer	1		
36	64020403T	Push Switch	4		
37	30050508T	Feed Gear A	2		
38	301005501T	Feed Rail Ass'y	1		
39	30100504T	Hook Slide Gear	1		
40	30100505T	Slide Gear Plate	1		
41	30050738T	Turn Table Base	1		
42	60020705T	Spindle Motor	1		
43	30050729T	Turn Table	1		
44	30050713T	Turn Table Plate	1		
45	30050742T	Controller Spring	1		
46	30050721T	Floating Rubber	3		
47	30050715T	Floating Spring (B)	2		
48	30050743T	Floating Screw	3		
49	30050740T	Floating Spring	1		
50	60021102T	Feed Motor	1		
51	30050709T	Motor Pulley	1		
52	30050714T	Feed Motor Belt	1		
53	30050737T	Pick up Support	1		
54	30050724T	Shaft Holder A	1		
55	300507303T	Feed Screw Ass'y	1		
56	30050728T	Pick up Shaft	1		
57	30050735T	Feed Nut Support	1		
58	30050739T	Feed Nut Spring	1		
59	EWS26A-B921	Wire	1	10Pin	
60	OPTIMA-5S	Pick up	1		

Item	Part Number	Part Name	Q'ty	Description	Areas
61	EWS264-B924	Wire	1	4Pin	
62	301008503T	Rail Base Ass'y	1		
63	30100802T	Rail	1	Left	
64	30100803T	Rail	1	Right	
65	30100804T	Hook Lever	1		
66	301008502T	LP Bracket Ass'y	1		
67	301008301T	Magazine Holder Ass'y	1		
68	30050114T	Chassis Support	1		
69	30050725T	Shaft Holder B	1		
70	12030105T	Tie Band	4		
71	300507305T	Turn Table Base Ass'y	1		
※72	301004502T	Plus Base Ass'y	1		
73	301004302T	Plus Rail Base Ass'y	1		
74	30100415T	Stopper Spring	1		
75	30050416T	Stopper	1		
76	30100411T	Plus Belt	1		
77	30100403T	Plus Gear A	2		
78	30100404T	Plus Gear B	1		
79	30100515T	Feed Gear C	2		
80	30100506T	Feed Gear D	1		
81	30100516T	Feed Gear E	3		
82	30100413T	Feed Gear D Spring	1		
83	30100412T	Feed Gear E Spring	1		
84	30100414T	Switch Actuator	1		
※85	30100418T	Plus Slide Rail	1		
86	E26609-003	Plus 1 Tray	1		
87	SPSK1722M	Screw	2		
88	9C0420253T	Screw	1		
89	9C0820601T	Screw	2		
90	9C1220301T	Screw	1		
91	9C0420403T	Screw	2		
92	9P0420031T	Screw	6		
93	9P0220031T	Screw	2		
94	9P0230041T	Screw	2		
95	9P1120032T	Screw	1		
96	9P0420051T	Screw	3		
97	9P0420041T	Screw	3		
98	9W0113080T	Washer	3		
99	9W0250110T	Washer	18		
100	REE3000	E. Ring	3		

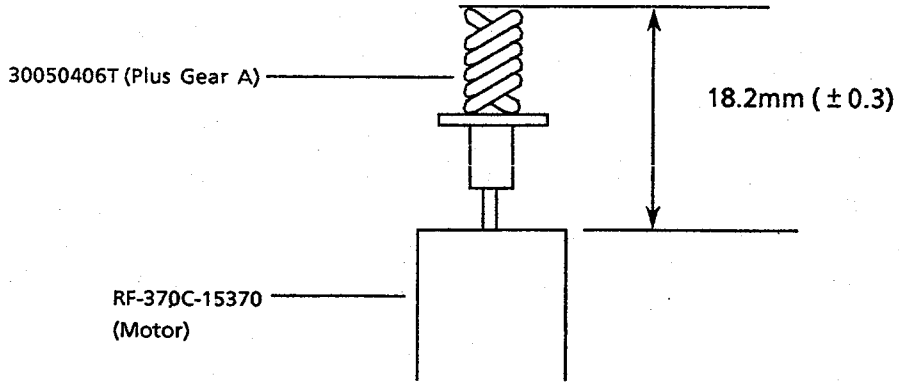
※ Replace the No.72 (Plus Base Ass'y) or No.85 (Plus Slide Rail) at the same time when replacing the No.85 or No.72.
In this time, add the No.98 and No.99 (Shaded ones).
~ Perform the above information only alphabetic A of the changer mechanism unit assembly.

■ How to install the gears and pulley when servicing.

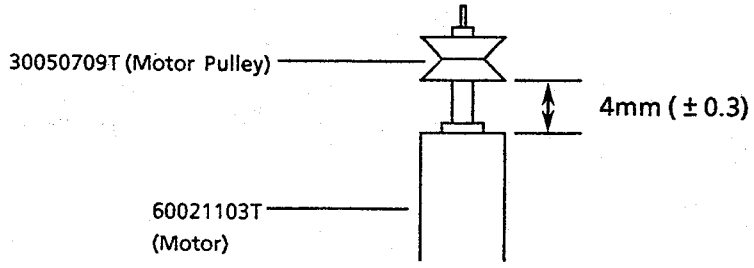
1. Elevator Motor, Loading Motor



2. Loading Motor for single tray



3. Feed Motor



Printed Circuit Board Ass'y and Parts List

■ENN-327☐ CD PC Board Ass'y

Note : ENN-327☐ varies according to the areas employed. See note (1) when placing an order.